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Volume 234 MAY 2, 1946 Number 18

LOW-SODIUM DIET AND FREE FLUID INTAKE IN THE TREATMENT OF CONGESTIVE HEART FAILURE*

A Preliminary Report

WILLIAM C. BRIDGES, M.D.,† EDWIN O. WHEELER, M.D.,‡ AND PAUL D. WHITE, M.D.§

BOSTON

TRADITION is hard to break. Doubtless since the time of Adam, dropsy has been traditionally treated by the limitation of fluid intake, a natural result of the observation of the accumulation of water in the body tissues. Despite the assembly of clear-cut evidence in laboratory and clinic that restriction of common salt and of sodium in any form is much more important than is restriction of water, the practical application of this idea in effective form has been extremely slow. In a few places in this country where knowledge along this line was far more advanced than elsewhere, the usefulness of this treatment was appreciated, but the lag in the way of general acceptance — or rather, of adequate distribution — of this valuable information has been great, owing in part, doubtless, to the distractions of World War II.

The custom of late years at the Massachusetts General Hospital of casually advising a low-fluid and low-salt intake for congestive heart failure has during the past year given way to the far more successful application of a low-sodium and free fluid intake. In the fall of 1944, we were prompted to adopt this procedure on reading of Lyons's[1] experience in New Orleans following the vigorous report of Schemm,[2, 3] who in turn was stimulated by his former preceptor, Newburgh.

Evidently, the secret of the success of this treatment in many cases is not merely to give a so-called "low-salt" diet, which may contain anywhere from 3 to 6 gm. of sodium chloride, but to give a low enough salt intake, which may need to be as little as 2 gm. or even less. This in turn allows one to permit, in fact to encourage, free intake of fluids for the relief not only of edema but also of thirst. The heart is able to support the increase of fluid intake, despite former fears, and the kidneys are able to work much more effectively. Nor is it necessary to carry out this treatment in the hospital in all cases, although it is usually best to begin there; ambulatory patients can follow the regimen at home if properly instructed and if able to secure such an important item in the diet as salt-free bread. The amount of salt in ordinary bread alone, especially in the case of habitual bread eaters, is apparently sometimes great enough to make the difference between the persistence and the clearing of edema. Moreover, one should not wait for dropsy or even slight grades of systemic edema to appear; dyspnea and pulmonary edema are likewise helped, and the salt restriction may be usefully applied early in the treatment.

That sodium chloride plays a leading part in the development of edema was pointed out in 1901 by Achard and Loeper.[4] These investigators fed 10-gm. samples of salt to patients with heart trouble and found that it was not excreted in the urine in twenty-four hours, as it was in certain other patients without heart disease; nor was the blood level of sodium chloride increased. From this they concluded that the ingested salt contributed to the edema. This experiment was not utilized in the treatment of cardiac edema until 1903, when Merklen[5] treated a group of edematous patients and nephritic patients with a milk diet without extra salt. He chose milk for this diet entirely because of its low salt content. The edema cleared under this regimen. Karell[6] had found in 1866 that a diet of 600 to 800 cc. of milk a day was helpful in the care of edematous cardiac patients, but he had little knowledge concerning the mechanism of its beneficial effects. Another study at about the same time as Merklen's, made by Widal and Lemierre[7] and conducted in the same kind of patients, suggested that fluid intake need not be restricted to the extremely low levels set by Karell, for in their patients 3000 cc. of milk was permitted a day, without the reduction of the efficacy of the treatment. Thus, one of

*Presented before the New England Heart Association, November 26, 1945.

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their patients, who had marked edema, could tolerate this amount of milk a day when salt was withheld from the diet (Fig. 1).

As is widely known, however, even up to the present time edematous patients have in general been treated by the restriction of both salt and water. This was true at the Massachusetts General Hospital. Prior to the latter part of 1944 patients with congestive heart failure were treated with a diet containing 4 to 6 gm. of sodium chloride a day, and the fluid intake was restricted to 1000 to 1500 cc. a day.

In 1934, Newburgh and Lashmet[8] studied the edema of nephritic patients. They pointed out the fallacy of restricting water in its treatment and the value of restriction of sodium as a means of limiting extracellular fluid.

Investigation of the relation of salt and water to the control of cardiac edema was not adequately reported further until 1941, when Schroeder[9] clearly showed that sodium was the important factor to be considered, and that provided its intake was held at low levels, the water intake could be raised to 4000 cc. a day without the formation of more edema. This problem was also considered by Proger et al.,[10] by Ellis[11] and more recently by Schemm.[2, 3] The last-named worker advocates the use of extremely large rations of water — 5000 to 6000 cc. a day — and a low-sodium, neutral-ash diet as a means of controlling cardiac edema. He believes that the reaction of the diet is extremely important — in other words, that it is more helpful to keep the pH of the diet within limits than its sodium content.[3]

DATES	VOLUME D'URINE émise en 24 h.	CHLORURE de sodium.	URÉE	POIDS	ALIMENTATION	ÉTAT GÉNÉRAL
	lit.			kil. gr.		
25 mai.	2 150	6.90	25.80	»	3 litres de lait.	Œdème en voie de décroissance considérable.
26 —	1 900	6.20	26.32	»	— —	
27 —	2 100	6.85	26.80	»	— —	
28 —	2 100	6.80	29.60	»	— —	
29 —	1 950	7.00	28.30	»	— —	
30 —	2 100	7.60	23.80	»	— —	
31 —	2 000	7.50	24.50	70 200	— —	
1er juin.	1 600	8.90	21.40	70 200	Lait, 3 lit.: pain, 120 gr.; café, 500 gr.; biscuits 4 + NaCl, 10 gr.	
2 —	1 550	6.92	25.10	70 400	— — —	
3 —	2 000	10.90	22.20	70 200	— — —	
4 —	1 550	13.07	23.60	70 100	— — —	Reprise des œdèmes.
5 —	2 000	19.20	31.00	70 600	— — —	Œdème pulmonaire.
6 —	2 000	12.06	25.60	70 100	— — —	— —
7 —	1 500	9.04	28.20	71 300	— — —	
8 —	2 200	13.20	30.80	71 800	— — —	
9 —	2 000	10.80	26.50	72 400	— — —	Gros œdème des jambes.
10 —	2 000	11.90	30.20	72 600	Lait, 3 lit., pain, 120 gr.; café, 120 gr.; biscuits 4; NaCl cessé.	Œdème pulmonaire; œdèmes diminués.
11 —	3 200	11.05	32.60	72 900	— — —	Disparition des œdèmes.
12 —	»	»	»	70 600	— — —	

FIGURE 1.

Plan of Treatment

During the past year we have treated patients with congestive failure with a diet quite low in sodium chloride, in addition to the usual digitalis and diuretics. Before a consideration of the advantages and disadvantages of the low-sodium diet is undertaken, its composition should be presented. To begin with, the diet used in the treatment of patients with congestive failure has contained about 700 mg. of sodium in an amount of food equivalent to 1800 calories. If the food tastes too flat, patients are allowed ammonium chloride in the salt shaker in the place of sodium chloride. The diet has yielded a neutral ash, although its reaction probably has little significance, since ammonium chloride is given. In the body the ammonia forms urea and the chloride is set free to neutralize the excess sodium. We have not attempted to balance alkaline-forming and acid-forming foods.

There are certain precautions that must be strictly adhered to in following such a plan. In the first

place, no salt or soda is to be used in cooking or at the table, and one should not employ salt substitutes that contain sodium in any form. Second,

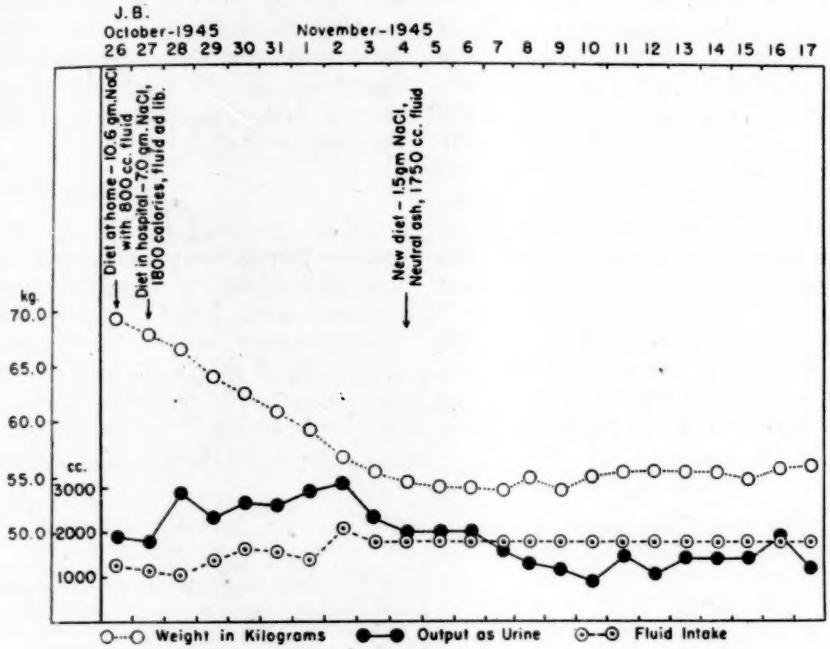

FIGURE 2.

The advantages of this form of treatment are threefold. It frequently enables one to control edema that cannot be controlled with the usual measures — that is, rest, digitalis and acid-forming and mercurial diuretics. It diminishes the frequency with which mercurial diuretics must be given; indeed, these diuretics can frequently be entirely eliminated. Lastly, it enables patients to take

unsalted butter or butter that has been washed free from salt may be used; bread and salad dressings must be prepared salt free. Lastly, medicines

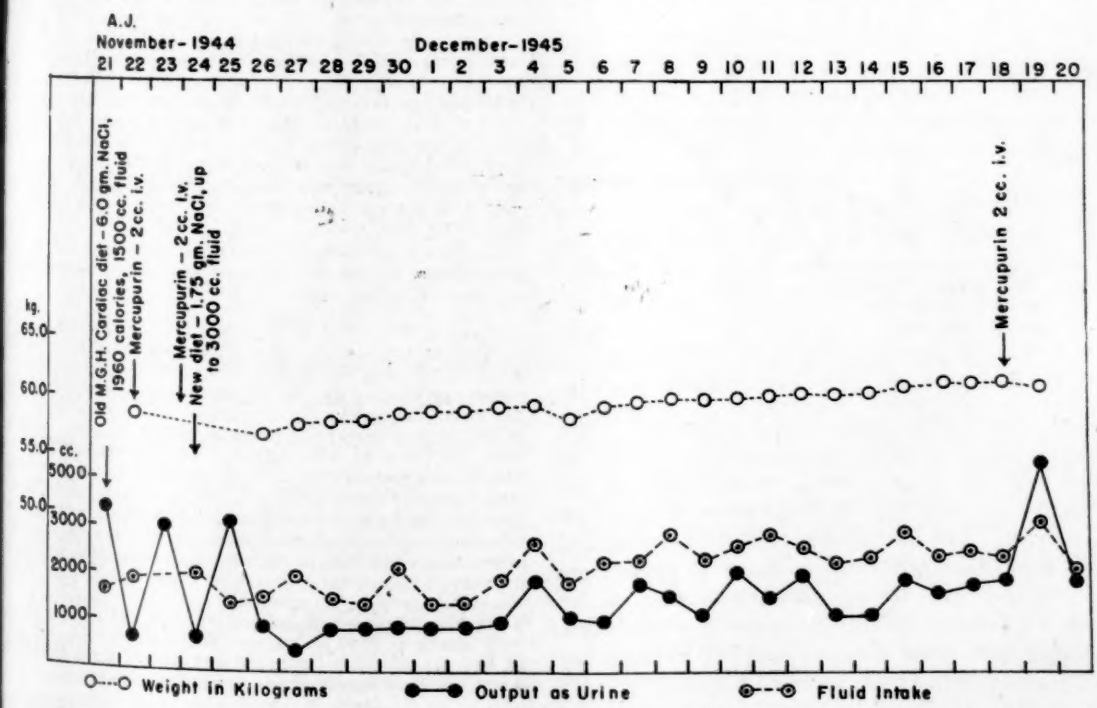
A.J.
November-1944
December-1945
21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Old M.G.H. Cardiac diet – 6.0 gm. NaCl, 1960 calories, 1500 cc. fluid
Mercupurin – 2 cc. i.v.
Mercupurin – 2 cc. i.v.
New diet – 1.75 gm. NaCl, up to 3000 cc. fluid
Mercupurin 2 cc. i.v.
kg.
65.0
60.0
55.0
50.0
cc.
5000
3000
2000
1000
Weight in Kilograms
Output as Urine
Fluid Intake

FIGURE 3.

for gas and indigestion must not contain sodium; calcium salts are helpful as substitutes.

more water than they otherwise could. Frequently those treated by the old regimen have been extremely thirsty.

There are also disadvantages, however. The chief of these are that a few patients find it difficult or impossible to obtain such a diet, especially those who eat their meals in boarding houses and restaurants, and that patients frequently complain of the flat taste of food, particularly during the early stages of the diet. Although these criticisms are difficult to overcome, the marked relief that patients often obtain from their distressing cardiac symptoms, notably dyspnea and insomnia, and from frequent mercurial injections overweighs these disadvantages.

We are not as yet in a position to confirm Schemm's belief that a water intake of 5000 to 6000 cc. a day is more beneficial than one of 2000 to 3000 cc., but we are sure that the water intake formerly recommended was often distinctly inadequate. The optimal amount of water in twenty-four hours on such a regimen has not been established, and we ourselves have not as yet adequately investigated this subject. The restriction of fluid as practiced in the past does not seem to have a physiologic basis. There are strong indications that under certain conditions, notably in cases in which there is a diminished renal function and the kidneys can no longer concentrate the urine to a specific gravity great enough to eliminate the waste products of metabolism in the normal volume of urine, a daily intake of water higher than 1500 cc. is essential. Cardiac patients frequently have diminished renal function. For example, if a given renal mechanism can concentrate urine to a specific gravity of only 1.010, it will require at least 3000 cc. of water a day for the kidneys to eliminate the metabolic waste products in twenty-four hours. Should the patient develop an intercurrent infection, even larger amounts of fluid will be required to take care of this loss through evaporation from the skin and lungs.

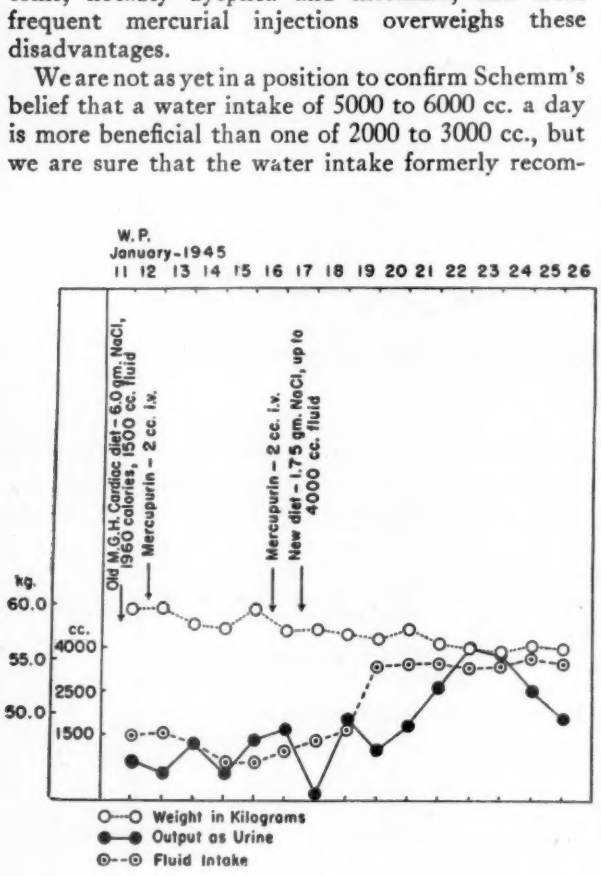

FIGURE 4.

RESULTS

So far we have studied the effect of the low-sodium diet on 64 patients, and have encountered varying degrees of success. Seventeen patients obtained much help, 15 moderate benefit, 8 slight benefit, and 7 no benefit. In the remaining 1 cases, either the patients were unco-operative or insufficient data regarding their response to the diet are available. Five cases will be briefly reported to illustrate the effect of this regimen.

CASE 1 (Fig. 2). A 67-year-old man was admitted to the hospital in 1935 with a diagnosis of acute myocardial infarction. During convalescence from this illness he developed congestive failure. He was treated for this with digitalis, which he has continued to take. In the fall of 1942, he developed ankle edema, which has persisted up to the present time. In December, 1944, he developed ascites which required abdominal paracentesis. Since that time he has had to have several paracenteses for recurring ascites.

The patient was readmitted to this hospital on October 26, 1945, with marked ascites, ankle edema and pulmonary edema. An analysis of the diet that he had been receiving at home indicated that he had been taking 10.6 gm. of sodium chloride and 800 cc. of fluid a day. He was put on a regular house diet containing 2 gm. of salt a day and 1800 calories and was allowed as much water as he desired. He was permitted to continue taking 0.1 gm. of digitalis a day, as he had been doing at home. Under this treatment he had a marked diuresis and his general condition markedly improved with disappearance of both the ankle edema and the ascites. On the 10th hospital day, — 8 days after he had been put on the diet containing 2 gm. of salt, — the daily amount of sodium chloride was further decreased to 1.5 gm. and the daily water intake was fixed at 1750 cc. Owing to the fact that the patient had already lost most of his edema, this had little new effect.

Comment. This case illustrates extremely well how, in some cases, edema can be controlled simply by lowering the salt content of the diet.

CASE 2 (Fig. 3). A 39-year-old truck driver had a pericardial resection for constrictive pericarditis in October 1944. Following the operation he continued to require Mercupurin every other day for anasarca, and this, as is frequently the case, was extremely fatiguing. In addition to this complaint, he had cramplike pains in the epigastrium following each injection of Mercupurin. On November 24, he was placed on a low-sodium, neutral-ash diet and the water intake was increased from 1500 to 2500 cc. a day. After he had been on this form of treatment for 23 days without mercurial injections, the edema decreased slightly and the breathing improved. The weight showed a slow increase, apparently because of a normal increase in body tissue. The patient was discharged in December.

He has continued to follow the diet and to maintain the fluid intake at 2500 cc. a day. When last seen in July, 1945, he had considerably improved and had required Mercupurin injections only four times in the last 6 months.

CASE 3 (Fig. 4). A 73-year-old man had had hypertensive heart disease since 1943. In January, 1945, he developed congestive failure and was admitted to the Baker Memorial Hospital. On admission he had moderate ankle and sacral edema and a left hydrothorax. The nonprotein nitrogen was

50 mg. per 100 cc. He was digitalized and given the earlier cardiac diet of this institution, which contained 6 gm. of sodium chloride a day. Fluids were restricted to 1500 cc. a day. Under this regimen, however, there was little change in the patient's condition and the response to Mercupurin was poor. On the 7th hospital day, he was placed on the low-sodium, neutral-ash diet and the water intake was increased to 3000 cc. a day. The edema cleared rapidly and the fluid in the left pleural cavity almost disappeared. The nonprotein nitrogen decreased to 36 mg. per 100 cc. The patient was discharged to a nursing home on the 17th day, 9 days after the neutral-ash diet and increased water intake had been begun.

He has continued to do well from the standpoint of his congestive heart failure.

Case 4 (Fig. 5). A 60-year-old baker with coronary and hypertensive heart disease had had congestive failure since 1943 and for many months had required weekly mercurial diuretics, in addition to his acid-forming diuretics. Besides this treatment he had followed a salt-poor diet and had restricted his fluid intake to 800 cc. a day. He continued to feel miserable and complained of epigastric distress on this regimen. The mercurial injections were followed by marked prostration, lasting for several days after each injection. On March 22, 1945, he was started on the low-sodium, neutral-ash diet and was allowed fluids freely. Since then he has felt a great deal better and has required no mercurial injections.

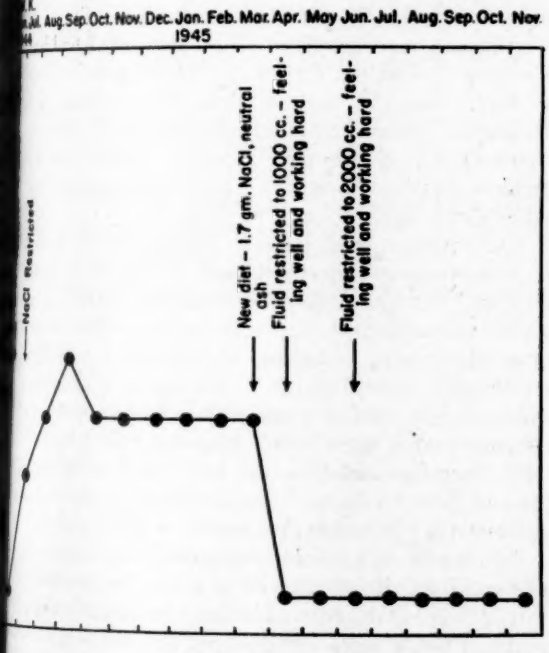
Jul. Aug. Sep. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov.
1945
NaCl Restricted
New diet – 1.7 gm. NaCl, neutral ash
Fluid restricted to 1000 cc. – feeling well and working hard
Fluid restricted to 2000 cc. – feeling well and working hard

Figure 5.

His sleep has been greatly improved, and he has been able to work every day, whereas formerly his activity had been markedly restricted. Prior to the initiation of this regimen he had great thirst and found it extremely difficult to restrict his water intake. He is no longer troubled in this way and continues to get along comfortably on the same small amount of fluid a day.

Comment. This case shows how successful this form of treatment may be in an ambulatory patient.

Case 5 (Fig. 6). A 59-nine-year-old woman had had hypertensive heart disease with congestive heart failure for 4 years. She required mercurial injections weekly to control her edema. On February 26, 1945, she was admitted to the Phillips House with slight pitting edema of the ankles and hepatomegaly. The low-sodium, neutral-ash diet was prescribed, and water was given up to 3000 cc. daily. The

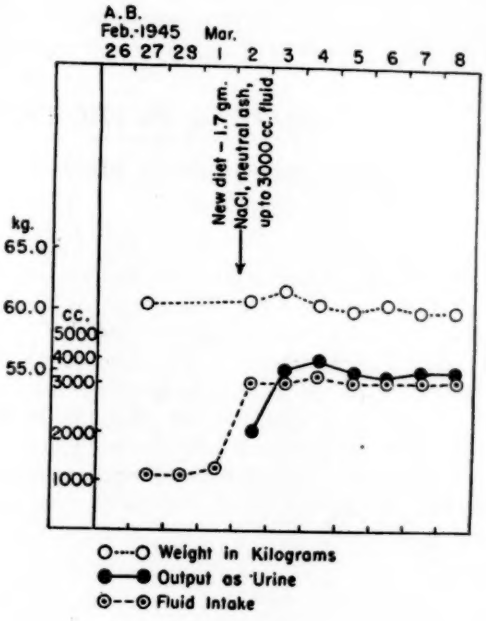

Figure 6.

edema cleared on this form of treatment, and the patient required no mercurial injections for the 10 days she was in the hospital. Subjectively she felt a great deal better.

Summary

Restriction of sodium to levels of 700 to 1000 mg. (equivalent to 1.75 to 2.63 gm. of sodium chloride) every twenty-four hours is helpful in the control of certain cases of congestive heart failure in which digitalis and mercurial diuretics are ineffective or not entirely satisfactory.

Water may be given freely, provided that the sodium intake is held to a minimum. Large water intakes may be of advantage in the elimination of edema, but this is probably a temporary phenomenon.

This regimen does not replace rest, digitalis and diuretic therapy but is a valuable adjunct to the treatment of obstinate congestive failure. In general, it has not been adequately used.

Five representative cases are reported.

The authors express their appreciation to Miss Shirley Wells for her help in arranging and analyzing the diets used in this study.

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ALCOHOL IN THE TREATMENT OF ANGINA PECTORIS*

SAMUEL STEARNS, M.D.,† JOSEPH E. F. RISEMAN, M.D.,‡ AND WILLIAM GRAY, M.D.§

BOSTON

THE earliest description of angina pectoris, that of Heberden[1] in 1786, refers to "the relief afforded by wine and spirituous cordials." Since then alcoholic beverages have frequently been recommended or at least permitted in the treatment of angina pectoris, but few efforts to evaluate such therapy have appeared in the literature. The present study was carried out to obtain an objective evaluation of the use of alcohol in the treatment of angina pectoris.

SUMMARY OF THE LITERATURE

The comparative value of brandy, carminatives and nitroglycerin in the treatment of attacks of angina pectoris was studied in 1934 by Evans and Hoyle.[2] Patients kept a record of two-week periods, noting the number of attacks, the duration of pain and the effect of medication. Nitroglycerin was followed by great or moderate relief in 59 per cent of the cases. Approximately half the patients reported a similar result with brandy or carminatives. Objectively, 1 of 11 patients was able to do more work following the prophylactic use of brandy.

White,[3] without advancing statistical or experimental evidence, has named alcohol as the most effective drug, next to nitrites, in the treatment of angina pectoris.

The drinking habits of 750 patients with angina pectoris and of a control group have been reviewed by White and Sharber.[4] No significant differences were found in the percentages of nondrinkers and moderate drinkers in each group; there were, however, 67 patients among the controls who drank to excess, compared to 9 excessive drinkers with angina pectoris. One of the latter had survived for twenty-four years following the onset of angina pectoris, despite a daily intake of 1 quart of whisky. It was concluded that although alcohol neither caused nor prevented angina pectoris, excessive drinking was rare in the past history of patients with this disease and that in occasional cases alcohol might prevent or relieve attacks.

Levy[5] also noted that the longest-lived of a large group of patients with angina pectoris was also the heaviest drinker.

MATERIALS AND METHODS

Observations were made on 19 men and 2 women, aged thirty-nine to seventy-five years, with angina pectoris of six months' to fifteen years' duration. None were in congestive failure, and only 1 had had a recent cardiac infarction. Of 11 patients in whom a history of the use of alcoholic beverages was recorded, 2 were total abstainers and 9 were infrequent or moderate drinkers. The heaviest drinker used not more than 2 or 3 ounces of whisky on any one day.

Each patient had been a regular weekly visitor to the Angina Pectoris Clinic of the Beth Israel Hospital for four months to thirteen years, during which time the objective response to a wide variety of medications, including nitroglycerin, had been repeatedly determined.[6, 7] Six patients showed a marked response to medication, 7 a moderate response, and 8 little or no response. The patients were therefore classified as belonging to Group 1, Group 2 and Group 3, respectively, according to the criteria previously described.[7]

At each visit, patients were questioned concerning the number of attacks of angina, the number of nitroglycerin tablets used and the amount of physical and emotional stress experienced during the previous week. The patients' ability to work was then determined by the Standardized Exercise-Tolerance Test,[6] which consists of continuously ascending and descending a two-step staircase in a cold room (about 50°F.) until angina develops. Only one test was performed on a given day, and no test was done if the patient had taken nitroglycerin in the preceding two hours. During the period of the tests with alcohol, patients received only placebo or other ineffective medication.

The following observations were made. In 8 patients, the comparative duration of induced attacks of angina pectoris when the patients were

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untreated and when they were treated by the ingestion of 1 ounce of whisky immediately at the onset of the attack was repeatedly measured. The amount of work that could be performed before pain was precipitated was determined in 21 patients at varying intervals up to ninety minutes after a single 1-ounce dose of whisky, and this was compared with the usual performance of the patient while on ineffective or placebo medication. The amount of work that could be performed before pain was precipitated was determined in 9 patients who had taken 1 ounce of whisky four times daily for one week, including the morning of the test. Lastly, to demonstrate a possible reflex effect of alcohol, the amount of work required to precipitate pain was determined in 8 patients who exercised while holding ½ ounce of whisky in the mouth.

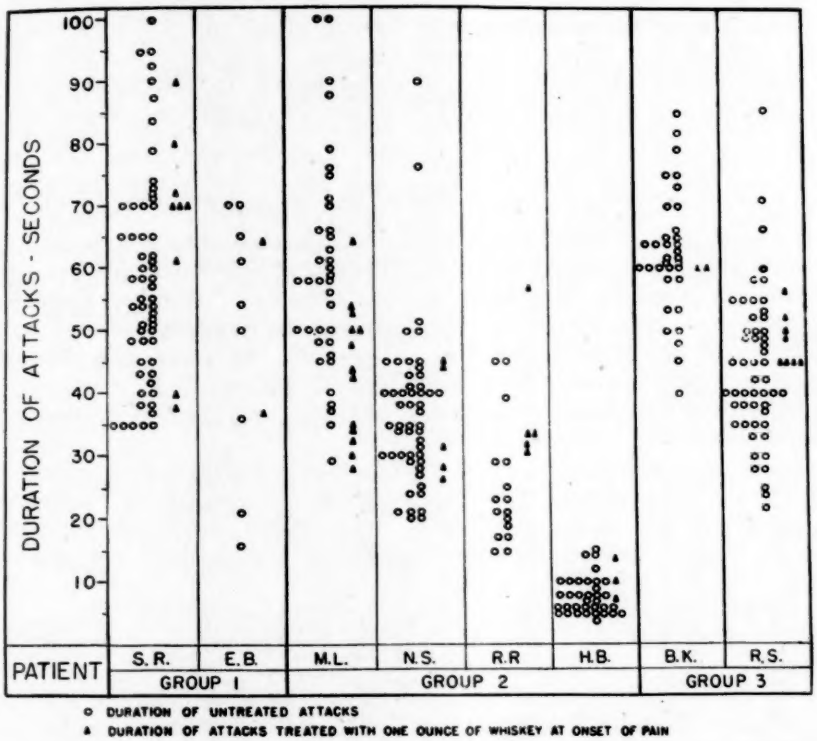

FIGURE 1. *Duration of Attacks of Angina Pectoris.*

RESULTS

Effect of Alcohol on Duration of Attacks of Angina Pectoris

One patient (M.L.) whose untreated attacks averaged sixty-two seconds in duration demonstrated a decrease in the duration of pain to an average of forty-six seconds when given 1 ounce of whisky immediately at the onset of an attack (Fig. 1). In the remaining 7 patients, no measurable effect occurred (Table 1 and Fig. 1).

Five patients had at some time in the past attempted to obtain relief from attacks of angina pectoris by drinking whisky. One had obtained no relief; the remaining 4, however, believed that whisky had been beneficial. The following examples illustrate their experience. One patient (I.K.), after developing chest pain, walked for fifteen minutes to obtain a drink of whisky; relief occurred five minutes after ingestion of the liquor and the cessation of walking. Another patient (R.S.) obtained relief simply by touching a drop of whisky to the tongue. A third patient (M.L.) thought that whisky relieved the sense of weakness that he ordinarily experienced after an attack. The fourth patient (E.B.) reported that whisky had previously

TABLE 1. *Effect of Whisky on Duration of Angina Pectoris Induced by Standardized Exercise-Tolerance Test.*

NAME	SEX	DURATION OF PAIN			
		RANGE		AVERAGE DURATION	
		Untreated	Treated by Whisky	Untreated	Treated by Whisky
		sec.	*sec.*	*sec.*	*sec.*
B.K.	M	60–65	49–60	62	59
N.S.	M	30–40	31–43	36	35
S.R.	M	50–70	40–72	59	65
R.R.	M	15–25	32–34	24	33
R.S.	M	35–50	45–50	44	48
E.B.	M	35–65	36–64	49	50
H.B.	M	7–10	7–13	8	10
M.L.	M	45–65	35–55	62	46

decreased the severity of attacks if taken when pain was coming on; in recent years this effect had not been obtained. All 5 patients used nitroglycerin as the drug of choice for the treatment of attacks.

Effect of Single Doses of Alcohol on Ability to Exercise

Of the 21 patients who took 1 ounce of whisky up to ninety minutes before performing the Standardized Exercise-Tolerance Test, 5 were able to do from 18 to 27 per cent more work than was otherwise possible (Table 2). These increases in exercise tolerance occurred thirty, sixty and ninety minutes after the ingestion of whisky by

ardized Exercise-Tolerance Test, 2 (N.S. and E.B. had no attacks of cardiac pain during the wee This result was not associated with any change exercise tolerance. Five patients felt subjectivel better while on regular doses of whisky. One patie (S.L.) showed a 23 per cent increase in exerci tolerance, another (H.B.) showed a 33 per ce decrease, and 3 (B.K., E.B., and S.W.) showed change. The eighth and ninth patients of t group (R.S. and S.R.) experienced increased fr quency and severity of angina, and 1 patient (R.S was forced to discontinue the medication aft several days because of ten to twenty attacks

TABLE 2. *Effect of Whisky on Ability to Work as Measured by Standardized Exercise-Tolerance Test (in Trips).*

NAME SEX	USUAL RANGE WITH NO THERAPY	2 MINUTES AFTER TAKING 0.3 MG. OF NITROGLYCERIN	MINUTES AFTER DRINKING 1 OZ. OF WHISKY							1 OZ. OF WHISKY 4 TIMES DAILY FOR 1 WEEK	½ OZ. OF WHISKY IN MOUTH
			0	5	10	15	30	60	90		
Group 1											
S.R. M	24-30	51	24	28	34	30	36	37	38	22	30
E.A. M	25-30	90	26*			26*					
H.Sl. M	35-44	77	46*	44*		55*					
H.St. M	30-38	72		45*							
E.B. M	18-24	38	21	17	24	26	24	21		22	20
I.B. M	38-49	113		50		50					
Group 2											
N.S. M	18-22	34	19	16		22	24	26	20	22	20
H.B. M	33-40	64		38	48	51				27	
M.L. M	38-46	56	42	46	42	42	36	38	36		34
L.G. M	21-26					23*					
I.F. M	55-65	88	49	55		70					
S.W. M	25-32	50		24						26	31
R.R. F	20-24	31†	22	24	18	17		22		24†	22
Group 3											
S.L. M	27-31	34†		32	34		26	31		38	
R.S. M	22-28	30	24	24	28	28	27	28		26	20
B.K. F	24-30	34	18	18	30	16	30	36		26	
M.P. M	30-35	35	34*	35*		31*					
J.G. M	9-12	10	14								
B.F. M	24-26		20*	24*			24*				
B.A. M	31-38	41	29*	31*		43*					
R.K. M	8-15	16		14		11	15				17

*50 per cent alcohol used in place of whisky.
†No cardiac pain. Exercise stopped because of fatigue.

one patient (S.R.); ten, thirty and sixty minutes after taking whisky in another (B.K.); and between five and fifteen minutes after taking whisky in the remaining 3 (H.St., H.Sc. and H.B.).

In similar determinations, with 0.3 mg. of nitroglycerin taken two minutes before exercise, 4 of these 5 patients were able to do 60 to 75 per cent more work than usual. The fifth patient (B.K.) could do only 13 per cent more work than usual.

Of the 16 patients who showed no response to alcohol, 3 patients (Group 1) did 60 to 200 per cent more work after nitroglycerin; 5 patients (Group 2) showed 21 to 56 per cent increases after nitroglycerin; and 7 patients (Group 3) did not respond to nitroglycerin.[7]

Effect of Multiple Doses of Alcohol on Ability to Exercise

Of the 9 patients who drank 1 ounce of whisky four times daily for one week, together with a final dose immediately before performing the Stand-

chest pain daily instead of the usual two or three When whisky was discontinued, the attacks prompt decreased to their usual frequency.

Effect of Alcohol Held in the Mouth on Ability Exercise

The experience of 1 patient (R.S.) that touchin a drop of whisky to the tongue relieved his angina attacks was tested in this patient and 7 others No patient showed an increase in ability to wor or a change in the nature of anginal pain when exercising with ½ ounce of whisky held in the mouth.

DISCUSSION

According to the literature, alcohol may affect the patient with angina pectoris by a reflex or vasodilator mechanism or through the central nervous system.

Reflex Mechanism

Almost all attacks of angina pectoris are of less than three minutes' duration.[8] Since a significant

concentration of alcohol does not accumulate in the blood stream in this time, any clinical response following the drinking of 1 ounce of whisky is probably due to a reflex or psychogenic effect. That alcohol does exert a reflex effect on the cardiovascular system has been shown by many studies. Brooks[9] observed that 10 cc. of 50 per cent alcohol introduced into the mouth of an unanesthetized dog resulted in an immediate sharp rise in blood pressure, whereas much larger doses given through a gastric fistula had no immediate effect. Lieb[10] found that in man a drink of 5 cc. of undiluted whisky produced a small rise in blood pressure within one minute. Dixon[11] observed that the pulse was transiently accelerated by taking into the mouth whisky, mustard, hot water or other stimulants of the mucous membrane. Subsequently it was demonstrated by Grollman[12] that a dose of 15 cc. of alcohol produced in nondrinkers a transient rise in pulse, blood pressure and cardiac output within ten minutes of ingestion. He attributed these effects to stimulation of vasomotor centers by afferent impulses arising in the mouth, pharynx and esophagus.

In the present study, such reflex mechanisms were not of therapeutic importance, for angina pectoris was neither prevented nor decreased in duration by exercising the patient with whisky held in the mouth.

Vasodilator Mechanism

The vasodilating effect of alcohol on cutaneous vessels is well illustrated by the flushing and sweating that follow the taking of whisky. This effect has been shown experimentally to occur following the absorption of alcohol. Lieb,[10] for example, showed that well diluted whisky had no cardiovascular effect until sufficient time for absorption had elapsed. Grollman[12] observed a rise in blood pressure, pulse and cardiac output in habitual drinkers as well as in nondrinkers within fifteen to thirty-five minutes after the ingestion of 35 cc. or more of alcohol. This he considered to be compensatory to the cutaneous vasodilatation that would otherwise have resulted in a fall in blood pressure.[13]

Although a coronary vasodilating action has been assumed for alcohol,[14] there is little experimental evidence that this occurs. Dixon[11] found that perfusion of an isolated segment of the coronary artery of a rabbit with 0.1 to 0.2 per cent alcohol in saline solution caused extremely slight vasodilatation. Sulzer[15] observed that the first noticeable effect of alcohol on the coronary flow of a dog heart-lung preparation was invariably a decrease. An increase in concentration of alcohol from 0.13 to 0.21 per cent produced a further decrease of 17 per cent in coronary flow. Gilbert and Fenn[16] found that the slow intravenous injection of 0.3 cc. of 80 per cent alcohol per kilogram of body weight into the intact dog caused no increase in coronary blood flow, although increases of up to 50 per cent were obtained following the use of various theobromine derivatives. Such concentrations of alcohol approximate the intoxication level in man[17] and are not produced by ordinary therapeutic doses.

In the present study, any coronary vasodilatation that may have occurred was not of therapeutic value.

Central-Nervous-System Mechanism

Pharmacologists teach that although ethyl alcohol superficially appears to produce stimulation, it is actually a depressant of the central nervous system.[14] It has been stated that blood concentrations considerably lower than those associated with clinical intoxication may impair the function of the higher centers in man.[17] By this mechanism alcohol is probably capable of producing the observed effects of decreasing anxiety, diminishing attention to pain and promoting a sense of well-being.[18]

Regardless of its physiologic effect, the psychogenic effect, real or imaginary, has been commented on by many clinicians, including Osler[19] and Brooks.[20]

In this study, 7 of 9 patients who drank 1 ounce of whisky four times daily for one week reported subjective improvement. Two of these had no attacks of angina during the week of treatment. Objectively, one of them showed a 23 per cent increase in ability to exercise and another a 33 per cent decrease. The remaining 5 were able to do no more work under standardized conditions. Since similar results — that is, subjective without objective improvement — were noted in patients treated by multiple small doses of opiates or barbiturates,[21] it is not improbable that alcohol is also capable of decreasing attention to pain or of increasing the threshold of awareness of pain. Two patients were made subjectively worse, one stopping the medication because of the increased severity and frequency of anginal attacks. The mechanism of such unfavorable reactions is not obvious.

Judging from the literature, it is difficult to evaluate the effect of alcohol. In the present study, an attempt was made to measure objectively the clinical effect of alcohol in angina pectoris. Although no increase in ability to work resulted from this type of therapy and no decrease in the duration of an attack of angina pectoris occurred in the majority of patients, alcohol nevertheless seems capable in some cases of producing a certain type of subjective comfort. This may be of some value in the general management of the patient with angina pectoris. It is doubtful whether such medication has a specific effect on the course or severity of the disease.

Conclusions

Therapeutic doses of whisky do not measurably shorten the duration of attacks of angina pectoris or increase the capacity of the patient with angina for work.

In many patients with angina pectoris, whisky may promote an increased sense of well-being without associated objective improvement. A few patients, however, are made subjectively worse.

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SPONTANEOUS HEMATOMA OF THE ABDOMINAL WALL IN PREGNANCY

Report of a Case

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THE occurrence of spontaneous hematoma of the abdominal wall in pregnancy is relatively rare. Perusal of the literature reveals a complication of 28 cases by Torpin.[1] Thomas[2] reported an additional case that involved a full-term pregnancy, with a resultant live mother and a dead baby. Cesarean section was performed after the patient had gone into shock. Dawson[3] reported the occurrence of hematoma in a full-term pregnancy. Cesarean section was performed and a live baby was delivered. Liggett[4] reported a case in a sextipara at seven months in which he operated and ligated the ruptured blood vessel. Two months later a live baby was delivered from below. This brings the total of reported cases, exclusive of the present one, to 31.

Spontaneous hematoma is the result of rupture of the main inferior epigastric artery or one of its branches. In the 31 cases in the literature, the left-side and right-side occurrences were about equal in number. Almost all the patients were multiparas of thirty years of age or older. In 18 cases, cough was the causative factor. The cause in the remainder was the strain of labor or extraneous factors. The hematoma occurred at term in 9 cases and in the last trimester of pregnancy in 12.

The most striking feature in the reported cases was the high maternal and fetal mortality. Torpin gave a maternal mortality of 15 per cent. There were no maternal deaths in the other cases, so that the over-all mortality was 13 per cent. The fetal mortality in Torpin's review was also 15 per cent and the fetal death in Thomas's case makes the over-all mortality 16 per cent.

The percentage of maternal and fetal deaths is sufficiently high to merit serious consideration of this condition as a definite hazard, to be included with the other serious hemorrhages found in the later stages of pregnancy. Early recognition and appropriate treatment will definitely decrease the mortality rate, since almost all the reported deaths resulted from hemorrhage continuing to the point of severe shock.

The diagnosis of hematoma can be easily made if one remembers that such a condition can occur. In the case reported herein, the diagnosis was missed because the possibility of such an occurrence was not entertained. It was this fact, together with the similar mistake in diagnosis that prevailed in most of the other cases, that prompted the writing of this paper. The wider dissemination of knowledge that rupture of a vessel of the abdominal wall, with resultant hematoma, into the rectus abdominis muscle can and does occur during pregnancy will doubtless make for more accurate diagnoses, more efficient treatment and a lessened mortality. The appearance of a tender abdominal tumor that increases in size, with a history of cough, should make one aware of the possible hematoma. Continuing observation, with blood studies, x-ray examination and even diagnostic needling of the tumor, coupled with signs of concealed bleeding, completes the pic-

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ture and should establish diagnosis before serious shock results.

The treatment must be dictated by the circumstances of the case. Transfusions, operation for ligation of the vessel if bleeding seems to be continuing, the giving of blood coagulants, tight compression and, if necessary, termination of pregnancy are indicated. Termination by cesarean section must be seriously considered if the patient is at term, with a live baby, and not in labor. Since labor strain in itself has been a cause of hematoma, it seems unwise to subject a patient to operation for ligation of the bleeding vessel and within hours or a few days to have her undergo labor, with its additional strain on a damaged rectus abdominis muscle and potential resumption of bleeding. In a multipara not at term, operation for ligation of the bleeding vessel may be sufficient.

If active bleeding has ceased, emptying of the hematoma is neither necessary nor wise, since removal of the clot decreases the pressure on the bleeder and may reactivate the bleeding. Prevention of breakdown and infection may be accomplished by the use of regional and systemic penicillin therapy. If hemorrhage is still in progress, ligation of the offending vessel must be attempted.

Case Report

M. H., a 36-year-old, married tripara, began her last regular period on February 13, 1945, and the expected date of the confinement was November 20. The two previous pregnancies had been successfully terminated by low-forceps deliveries of living normal babies. The past history was negative. There had been no operations.

The prenatal period followed an even, uneventful course. The blood pressure vacillated between 118/62 and 126/70. The urine was consistently normal, and there were no signs or symptoms of toxicity. In the 3rd month, the red-cell count was 4,250,000, the hemoglobin 82 per cent, and the white-cell count 8200. A blood Hinton test was negative. The blood was of Type A and was Rh+. Quickening was noted in the 4th month, and fetal activity continued throughout the pregnancy.

One week before term, the patient had an acute upper respiratory infection with an associated tracheobronchitis. On November 23, a complaint of severe left-sided abdominal pain, associated with nausea and vomiting of 3 hours' duration, was made by telephone. Examination at the patient's home revealed a woman in moderate distress, walking about and holding on to the left side of the abdomen. The pulse was 78 and of good quality. The temperature was 98.4°F., and the blood pressure 120/68. The skin was moist and of normal color. The abdomen was nontender and revealed a uterus at term. A vertex presented and was lightly engaged. The position was O.L.A., and the fetal heart, heard in the left lower quadrant, was of good quality, with a rate of 132. The fetus seemed of normal size. Adjacent to the left cornu was a small, rounded mass the size of a lemon. It was tender, and the tenderness was transmitted to the left lower quadrant. There was no muscle spasm or rebound tenderness. Both flanks and costovertebral angles were negative. There was no vaginal bleeding or discharge. The bowels had been sluggish for the last 24 hours. On the previous day the patient had had severe, sustained spasms of coughing, which were so intense that she had not felt like eating. During the night there was left-sided pain and nausea.

Three hours after this examination, the pain became so severe that the patient was admitted to Wyman House, Cambridge Hospital, for observation. The temperature was 97.4°F., the pulse 104, and the blood pressure 102/60. The red-cell count was 3,640,000, the hemoglobin 75 per cent, and the white-cell count 15,400. A catheter urine specimen was negative except for occasional white and red cells. The abdomen revealed a mass along the left side of the uterus. It was firm and rounded at the top and the size of a small grapefruit, and extended indefinitely downward. It was exquisitely tender. There was slight muscle spasm, but no rebound tenderness. Rectal and vaginal examinations were negative. The fetal heart beat was present in the left lower quadrant of the abdomen and was of good quality and rate. Fetal motility was palpable and visible. The skin was somewhat pale. No cyst or fibroid had ever been palpable on previous examinations. A provisional diagnosis of ovarian cyst with a twisted pedicle and hemorrhage was made, and a consultant concurred in it. Cesarean section and exploratory laparotomy were decided on.

Under spinal anesthesia, a midline incision was made through the skin and fat. The anterior fascia appeared normal and was incised. The underlying muscle and posterior fascia were cyanotic and edematous. The peritoneum was slightly blue. When the peritoneum was incised, the abdominal cavity was found to be normal. Palpation of the abdominal wall through the incision revealed a mass that started 2 fingerbreadths below the left costal margin and extended downward. It was round and measured 10 cm. in diameter and 5 cm. in thickness. This was obviously a large hematoma in the left rectus muscle, with extravasation of blood down through the muscle almost to the crest of the ilium. In view of this and the probable result of labor, which was imminent, being 3 days overdue, it was deemed advisable to terminate the pregnancy by cesarean section. A longitudinal cervical section was performed, and a living female baby was readily extracted. Two grams of sulfanilamide powder was dusted over the uterine incision before the bladder reflex was sutured over. The hematoma was more carefully examined, and it was decided that emptying it would be unwise, since the release of tension might result in resumption of active bleeding. Any attempt to dissect above the hematoma to find the bleeder was likewise considered unwise. To aid in prevention of breakdown and secondary infection of the hematoma, a dose of 100,000 units of penicillin sodium in 3 cc. of normal saline solution was injected into the hematoma by means of a long needle traversing the rectus muscle. The abdomen was closed in layers without drainage or retention sutures. The patient was returned to bed in good condition, and the indwelling Foley catheter was connected to a drainage bottle. Penicillin was injected intramuscularly in doses of 20,000 units every three hours for the next 3 days.

The postoperative course was uneventful. Within 24 hours the hematoma was appreciably smaller, and it continued to decrease in size until at discharge 2 weeks after operation it was barely palpable. The wound healed by first intention. The mother and baby were discharged in good condition.

Summary

Hematoma of the rectus abdominis muscle may occur during pregnancy as the result of coughing.

The diagnosis is often missed because of the lack of awareness of such an entity.

The mortality in reported cases is high but can be made much lower.

Early diagnosis and operation, with cesarean section if the pregnancy is at term, offers the best opportunity for obtaining a live mother and baby.

A typical case, with recovery, is reported.

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MEDICAL PROGRESS

RESEARCH IN PHYSICAL MEDICINE

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EVALUATION of any therapeutic agent, including physical therapy, must be gauged by its effect on patients and based on knowledge of physiologic action. Scientific investigation in the field of physical medicine is difficult because of the wide variety of agents employed — massage, therapeutic exercise, water, air, radiations (heat, light and ultraviolet rays), vibrations (mechanical and sound) and electricity in various forms. The conditions treated are often ill defined regarding etiology and pathology, and prescription of physical therapy is consequently often empirical, with hope entertained for symptomatic relief. In spite of these well known shortcomings, there is some background of known biologic effects of such physical agents, based on scientific research, which should be recognized by all physicians who prescribe physical therapy. Since instruction in this subject is largely omitted in medical-school curriculums, it seems worth while to review the scientific basis of physical medicine for the benefit of the practicing physician.

HEAT AND COLD THERAPY

Physiologic Effects of Heat

The external application of heat has been used almost instinctively for centuries by sick and injured men and animals. The present knowledge of the actual effects of heat is based on data obtained rather recently. Heat is received in the form of radiant energy, more or less constantly from exposure to sunlight and occasionally from artificial sources. In considering the action of radiant energy it is customary to classify it in subdivisions according to wave length. Beginning with the shortest wave lengths, there are ultraviolet light (180–390 millimicrons), visible light (390–760 millimicrons), near infrared light (760–1500 millimicrons), intermediate infrared light (1500–3000 millimicrons) and far infrared light, with wave lengths greater than 3000 millimicrons. Since the effect of ultraviolet and visible energy is not primarily thermal, these wave lengths will be considered later.

The infrared, or heat, rays employed for therapeutic purposes are generally divided according to their power to penetrate the skin. Heat from nonluminous sources, such as hot-water bottles, hot packs and hot-water baths, does not penetrate the skin more than 1 millimeter, and heating is effected only by conduction. Energy from luminous sources of heat, however, such as sunlight and tungsten-filament and carbon-filament lamps, is transmitted through the outer layers of the skin and some slight depth effects are possible.

The rate at which changes of temperature penetrate the tissues is slow, for heat capacity is high and large quantities of heat have to be transported before the temperature of the tissues is greatly altered. Although the temperature of the tissues can be raised to 37°C. (98.6°F.) with relative rapidity, beyond this point, through the action of circulatory reflexes, heat is quickly dissipated, provided the circulation is intact.[1]

Circulation. An outstanding effect of local exposure to heat is stimulation of the vasomotor reflexes.[2] When following local exposure to heat the temperature of a part is increased from 18 to 39°C., the number of open capillaries is increased, tissue metabolism is accelerated, and the rate of exchange between blood and tissues is increased. Above this temperature the number of open capillaries is greatly increased, and the rate of blood flow is so rapid that the blood entering the veins simulates arterial blood and contains 91 per cent of its saturated value of oxygen, as compared with the usual value of 70 per cent, provided the circulatory system is not diseased. Local heating therefore produces peripheral vasodilatation, raises capillary blood pressure and through relaxation of capillaries increases the area of capillary wall available for fluid interchange.

Recently Field and Hall[3] have reviewed over a hundred articles on the physiologic effects of heat and cold, written in the last three years. A paper of particular clinical interest, by Barcroft and Edholm,[4] deals with the influence of water-bath temperatures ranging from 13 to 45°C. on blood flow and deep-muscle temperature in the human forearm. Flow-time relations were considered with reference to three temperature ranges — 13 to 35°C., 37 to 42.5°C. and 45°C. At temperatures of 13 to 35°C., the flow remained quite constant after the first fifteen minutes. At 37 to 42.5°C., it rose to a maximum in periods that shortened as the external temperature rose. Progressive diminution followed this peak, so that no steady state was attained. Factors possibly contributing to this effect are discussed. At 45°C., the blood flow rose to a maximum in about thirty minutes and remained at this high level or even slightly increased.

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In general, spontaneous variations in blood flow were more frequent the higher the water temperature.

At least five factors influenced the deep-muscle temperature — the water-bath or environmental temperature, the length of the exposure, the rate of blood flow, the body temperature and the local metabolic rate. In water baths below 35°C. attainment of a steady deep-muscle temperature required an hour or more; in baths at 13°C., it required about two hours. At bath temperatures above the body temperature, equilibrium was reached within one hour. The steady deep-muscle temperature was 4 or 5° higher than that of a water bath at 13°C., and about 2.5° above baths at 20 to 32°C. The rapid initial fall in baths below 20°C. was due to the greatly decreased blood flow. When the water-bath temperature equaled the body temperature, the deep-muscle temperature was about the same. At higher bath temperatures the rise in deep-muscle temperature decreased progressively with each increase in bath temperature, and at bath temperatures of 42.5 and 45°C. the deep-muscle temperature was usually 39°C. In some cases, however, the deep-muscle temperature diminished when the bath temperature was raised from 42.5 to 45°C., because of the greatly increased blood flow at the higher temperature. In cold baths, those at 13°C., the sensation of cold lasted for only ten minutes. There was no discomfort, but when the arm was taken out after two hours or more, muscular movements were difficult and slow. There was no generalized shivering. Immersion of the forearm in warm baths caused a small, sharp rise in body temperature as the large volume of blood flowing through the arm was heated; this was followed by a plateau and a fall. The body temperature, however, differed by only about 1°C. from that of the arm in the coldest and hottest baths employed. Barcroft and Edholm point out that the increased blood flow through the arm at high temperatures almost certainly involved vessels in the muscles as well as in the skin.

Paralysis of the sympathetic supply of the right arm by novocain, given by the paravertebral route, caused the same increase in blood flow in the right hand as did immersion in water at 43°C.[5] It thus appeared that inhibition of sympathetic activity could account for full vasodilatation in the hand and that there was no need to assume that the sympathetic nerves running to the hand contain vasodilator fibers. Similar evidence was provided for the absence of vasodilator fibers in the sympathetic nerves running to vessels in the forearm.

Peripheral vasodilatation or vasoconstriction produced by warming or cooling the body caused only minor changes in cardiac output. This was attributed to the buffering capacities of the vasomotor system.[6]

The increase in local circulation rate and augmented capillary pressure increased the rate of edema formation when venous pressure was maintained, so that there was expected to be an increase in lymphatic drainage. In the presence of some lymphatic blockage, however, low-grade subclinical edema might be produced. Warmth was shown to increase the lymphatic capillary network and lymph formation. These changes occurred particularly at temperatures between 45 and 50°C. in experiments on cervical lymph flow. At about 50°C., however, changes in capillary permeability that were not immediately reversible occurred.[7]

Blood. Bazett[8] has stated that a rising blood temperature particularly affects the dissociation constants of acid radicals of proteins, with the result that proteins combine with base that was previously in the form of sodium or potassium bicarbonate. The carbon dioxide thus freed greatly increases acidity and carbon dioxide tension. An alteration of 1.0°C. (1.8°F.) causes an increase in acidity comparable to the normal difference between arterial and venous blood. It is possible that these changes in acidity and gas tension are of some importance in modifying the reactions of tissues to infection. The activities of leukocytes in phagocytosis are probably also modified, since in vitro experiments show maximal velocity at 40°C. Studies by Spangenberg,[9] however, on the effect of external applications of thermal agents on inflammatory reactions in the rabbit showed no significant changes in the cytologic response.

Metabolism. It is well known that increase in temperature has a definite effect on metabolic changes in any tissue, such that the speed of chemical reactions is increased two or three times with a rise of 10°C. This is of considerable clinical significance when heat is applied to the extremities of patients suffering from obstructive arterial disease. In such cases the increase in the metabolic rate and consequent oxygen consumption produced by local exposure to heat may exceed the possible reflex increase in arterial supply. The net result is a relative diminution in the supply of oxygen as compared to the augmented need subsequent to temperature increases. For studies on the influence of temperature on oxygen consumption, the reader is referred to the review of Field and Hall.[3]

Nervous system. Local application of heat is known to influence the sympathetic nervous system. Gibbon and Landis[10] have observed that immersing the upper extremities in warm water produces vasodilatation in the lower extremities. External applications are also found to affect the transmission of painful stimuli. Although in some experiments the counterirritation thus produced lessens the recorded potentials in sensory nerves, the complete mechanism of effectiveness is not known. The impression was gained from similar studies by Gammon and Starr[11] that intermittent application of heat and cold was more effective than either agent used alone. Other experimental studies

have been made on the influence of thermal agents on gastric and intestinal motor activity. Bisgard and Nye[12] found that heat applied to the abdominal wall inhibited motor activity in the stomach, small bowel and colon. Heat applied directly to the stomach from drinking warm liquids, however, had the exactly opposite effect. The conclusions from these studies were that to inhibit the motor activity in the gastrointestinal tract in the presence of inflammatory lesions, such as appendicitis, hot applications rather than cold are indicated.

Recently the effect of heat on skeletal muscle has also been studied particularly in relation to poliomyelitis. During the acute stages of this disease muscles are found to be abnormally sensitive to passive stretching, as indicated by electromyography.[13, 14] Heat, particularly in the form of luminous radiation, diminishes this spasm or hyperirritability.[15] Other studies have shown that heat influences the relaxation phase of muscle contraction[16] but that strength is not improved by application of hot packs.[17]

Temperature sensation. Oppel and Hardy[18] have studied the response of the skin to sunlight, visible light and infrared radiation. The infrared rays are divided into those of wave lengths shorter than 3000 millimicrons, designated as penetrating rays, and those of longer wave lengths, designated as nonpenetrating. These authors studied the stimulating effect on sensation of visible light and of penetrating and nonpenetrating infrared radiation and found that the more penetrating the rays, the less sensitive was the subject to them. The skin-surface temperature was elevated highest by nonpenetrating radiation and least by visible light. Hardy and Oppel[19] found that the smallest rate of radiation that the body is capable of receiving as warmth is 0.00015 gram-calorie per centimeter^2 per second. This amounts to one nine-millionth of the normal hourly loss of radiation from the body surface. The intensity of stimulus necessary to evoke sensation increases as the area stimulated is decreased, although in all cases the magnitude of the stimulus required decreases as the area exposed decreases. These authors' method of measuring the pain threshold has proved to be of some clinical value in evaluating patients' sensitivity to pain and in judging the effectiveness of analgesic drugs in the alleviation of pain.

Local Application of Heat

Few experimental data are available that will help the physician to determine the accurate and optimum dosage of thermal agents. Some studies[20] have been made on changes in skin temperature with different sources of heat at different distances. In general these show that penetrating, infrared radiation is more efficient than the nonpenetrating type or other sources of heat whose transport is largely effected by conduction. It is also known that effective heating cannot be produced by the usual clinical methods in less than thirty to forty-five minutes. Although some experimental devices for measuring radiant heat have been produced, dosage is still gauged chiefly by the comfort of the patient, and the duration of treatment is too often determined more by habit and convenience than by knowledge of physiologic effects.

General Application of Heat (Fever Therapy)

Much of the present knowledge concerning the effects of heat has resulted from numerous scientific studies on artificial-fever therapy. Over six hundred articles on this subject have been written, and many scientific facts have been established and recently summarized in reviews.[22–24]

Physiologic effects. Increases in the pulse and the circulatory rate, resulting in a greater volume output of the heart, are outstanding. The maximal increase of circulation occurs between temperatures of 103 and 104°F. Electrocardiographic changes show decreased conduction time and irregularities. The blood volume and viscosity are little altered provided the intake of fluids is sufficient. If there is severe sweating without replacement of fluids, however, the reduction in blood plasma may be sufficient to produce peripheral vascular collapse. Capillary hemorrhages may occur at levels of pressure rendered abnormally low by decreased capillary resistance.

Absorption of fluid from the intestinal tract is frequently retarded during fever therapy, making intravenous administration of fluids necessary. The red-cell count of the circulating blood is generally unchanged, but following an initial decrease the white-cell count rises to levels ranging from 10,000 to 60,000. This leukocytosis is greater in shorter and less intense sessions of fever. Prolonged fevers at high temperatures have been shown to lead to leukopenia. Toxic changes in the polymorphonuclear leukocytes are frequently noted. Artificial fever may produce thrombocytopenia and a decrease in prothrombin and fibrinogen following hepatic damage, so that coagulation of blood is interfered with, leading to potential or actual hemorrhage.

There is slight alteration in the chemical constitution of the blood, aside from changes in the acid-base equilibrium. Marked alkalosis may occur in fevers characterized by severe dehydration and hyperventilation. If no sodium chloride is administered and sweating is profuse, a diminution of chloride is to be expected. The basal metabolic rate is increased by approximately 7 per cent for each degree of fever induced.

Hemorrhagic encephalitis and hemorrhagic pneumonitis have been noted in some cases in which extreme hyperpyrexia has been induced. Adrenal hemorrhage and destruction have also been observed. Post-mortem findings have been similar

to those observed following the fatal administration of nitrous oxide anesthesia. In some cases sudden death during hyperpyrexia has been caused by extensive hemorrhage into the endocardium of the left ventricle and into the septal wall in the region of the bundle of His.

Experiments have shown that *Neisseria gonorrhoeae* is generally destroyed in six to twenty-seven hours by a temperature of 41.1 to 41.6°C. Although in these bacteria may be destroyed by the production of fevers in this range, artificial fevers are generally thought to be effective through improvement with bodily defense rather than through destruction by heat alone.

Clinical applications. After many years of clinical and laboratory experiments, safe procedures for the induction of artificial fever have been established. These are described in the standard textbooks of physical medicine. Several methods of heating are satisfactory, since they all are based on the fundamental principle of preventing heat loss by an insulated cabinet and transferring heat by conduction from circulating hot air to the body or by conversion of high-frequency electrical energy by means of short-wave diathermy. It has been emphasized that production of fever by physical means is strictly a hospital procedure, to be carried out only by well trained personnel. Experience has shown that patients should be selected with as much care as are those who are to undergo major surgical operations. The chief usefulness of artificial fever lies in the treatment of gonorrhea, both acute and chronic, and its complications and in that of syphilis. Fever therapy is occasionally valuable for treating intractable bronchial asthma, chorea and undulant fever.

Physiologic Effects of Cold

Great interest in the effects of cold and numerous studies on the subject have followed the pioneer work of Smith and Fay[25] in the treatment of cancer with temperatures maintained at levels of 75 to 90°F. Studies at these temperatures have shown that the circulatory rates of blood flow are markedly lessened and blood pressure is decreased.[26] Electrocardiograms reveal irregularities and changes in the QRS complex and ST intervals. Blood-chemical changes are minimal. Undifferentiated cell growth, such as occurs in cancer, has been found to require an optimal critical temperature level below which degenerative changes occur, whereas normal cellular tissue is capable of withstanding temperatures between 90 and 95°F. or lower. On this basis, patients with inoperable cancer have been given hypothermia, with some temporary good results. Relief of pain has been noted in terminal states of metastatic cancer following hypothermia. Other neurologic changes have included an increase in the deep reflexes in moderately low temperatures and absent reflexes as the temperature approaches 78°F. The pupillary reflexes are also altered, dysarthria has been observed, and there is delayed cerebration, including retrograde amnesia. In schizophrenic patients marked changes in mental status have been seen.[27] Although regressive changes in cancerous tissues have been noted, cures have not been obtained.

Short exposures to cold also have definite effects. A cold bath, for example, produces the well known changes in the skin described as "gooseflesh," with diminution of capillary blood flow and obvious pallor. Following this there is a reactive hyperemia, with dilatation of the cutaneous vessels. The effects on the circulation rate vary in different subjects. Respiratory action is increased by short applications of cold and later becomes regular and deep. The metabolic rate is usually elevated from the shivering induced. Locally the metabolism is decreased in areas in which there is vasoconstriction of all surface vessels, including arteries, arterioles, capillaries, venules and veins. Alterations in temperature are greater with cold than with heat applied locally, so that cold is often said to penetrate better. One of the most important effects of cold is through its sedative action on the nervous system. Mild applications may be used for relief of pain, and actual refrigeration has been found to be an effective anesthetic agent for surgery.[28] Wound healing has not been interfered with in these cases.

Light Therapy

There is a general belief in the therapeutic value of sunlight. Although it is well known that sunlight is necessary and beneficial for plant life, the analogy that it has widespread therapeutic value for man is lacking in scientific proof. Whereas, strictly speaking, light refers only to the wave lengths that produce visual sensation, it is the usual practice to include the invisible ultraviolet rays in discussions of light therapy. The invisible infrared rays have already been considered under the subject of heat. Knowledge of the effect of sunlight, particularly visible and ultraviolet rays, in relation to disease processes is somewhat scanty, but there is a large body of literature based on physical studies in relation to cellular activity and chemical processes. Effects of ultraviolet radiation and sunlight that are of particular interest in relation to medicine have been recently reviewed by Blum.[29]

Physical Aspects

Some of the established facts concerning penetration and absorption are of interest and will accordingly be briefly summarized. Transmission is extremely low for wave lengths shorter than 320 millimicrons, the spectral region of ultraviolet radiation that is of biological interest. Such radiation is largely absorbed in the epidermis, principally by protein. Transmission increases progressively

with wave length through the near ultraviolet region and is high throughout the visible spectrum, considerable amounts of visible radiation reaching the corneum and even the subcutaneous tissue. Transmission remains high in the near infrared region, but deep indentations appear in the transmission curve at wave lengths corresponding to maximum absorption by water. At the wavelength limit of sunlight, 3000 millimicrons, penetration is extremely slight. There is considerable disagreement concerning the maximum values for penetration from 700 to 1500 millimicrons. The temperature of the tissues at some depth may be raised appreciably when radiation impinges on the skin surface, but this does not indicate actual penetration of the incident radiation. Some of the high values may actually be due to conductive heating. Even if the highest values obtained could be accepted, it is not conceivable that an important fraction of sunlight reaches skin tissues more than a few millimeters beneath the surface. Light of wave lengths that produce the most striking effect in human skin in sunburn penetrates only a small fraction of a millimeter. A large proportion of total sunlight is reflected by human skin, the percentage varying with different complexions. There is no reflection of wave lengths longer than those found in sunlight, the total radiation being absorbed extremely superficially. The human body itself emits a broad band of wave lengths, with a maximum at about 10 microns. In this spectral region human skin behaves as a perfect radiator or black body.

Physiologic Effects

The specific effects of sunlight, particularly ultraviolet radiation, are initiated by a photochemical reaction, as contrasted with the radiant heat effects that result from a local rise in temperature. The photochemical reaction is dependent on activation of molecules by the capture of quanta of radiation. The type of chemical reaction that follows is determined by the kind of molecules present in the enviroring system, as well as by the activated molecule. The effect may be characterized by an action spectrum, meaning that light of certain wave lengths is specifically absorbed and leads to the activation of molecules. Action spectrums may follow absorption spectrums so closely that absorbing compounds can thus be identified.

Exposure of the skin to bright summer sunlight for a half-hour or longer is followed by dilatation of vessels and objective erythema and slight swelling. Following prolonged exposure the edema may be marked, with desquamation and blistering and pain or itching. The erythema fades in a few days

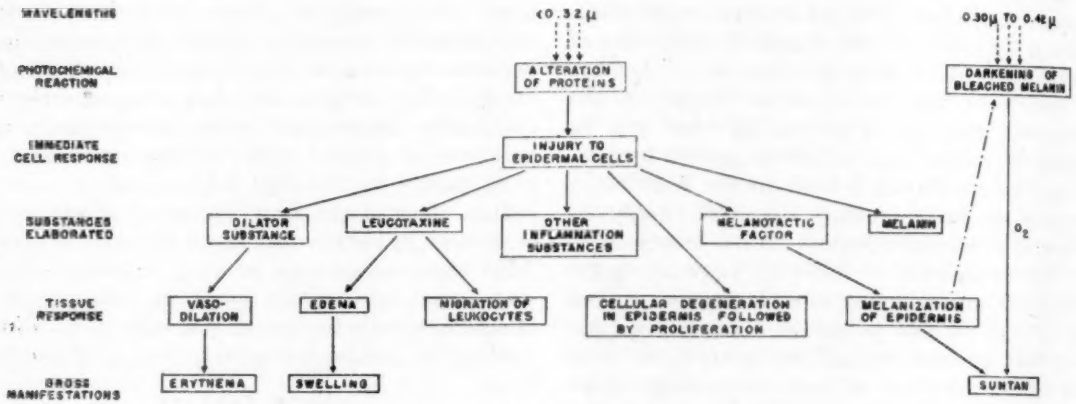

FIGURE 1. *Mechanism of Sunburn* (Blum[29]).

and is replaced by pigmentation, with an increase of melanin in the epidermis. Blum[29] has postulated that sunburn is due to direct injury to the cells of the epidermis by ultraviolet radiation, and that as a result of injury the cells elaborate various substances that bring about specific physiologic responses. These substances are elaborated at slow rates, thus accounting for the long latent period between exposure and the appearance of erythema. A scheme illustrating the sequence of events in sunburn is shown in Figure 1.

Ultraviolet radiation is known to produce injurious effects in living systems in general. Special studies have been made of the effects of ultraviolet radiation on single cells, such as bacteria, protozoa, sperm and eggs. Action spectrums indicate that ultraviolet radiation exerts an injurious action by altering either protein or nucleic acid. The erythema of sunburn is generally credited to the action of a histaminelike dilator substance released by the injured cells, the exact chemical nature of which is unknown. The increased capillary permeability may be due to a substance called by Menkin,[30] "leucotaxine," which brings forth migration of leukocytes and tissue edema. Other changes in sunburned skin include an increase in surface temperature, changes in electrical potentials, an increase

in the permeability of lymphatics, hyperesthesia and chemical changes, including enzyme activity.

Pigmentation, or sun tanning, is associated with migration of melanin to the superficial layers of the epidermis. There is probably also some formation of new melanin, particularly by ultraviolet rays of greater wave lengths, which may explain the greater tanning effect of sunlight as compared with mercury-arc sources, which have little of the longer ultraviolet radiation.

The existence of tolerance or immunity to sunburn is well recognized. Although it is generally thought that sun tan explains tolerance to increasing exposure to the sun, recent observations have shown that this is not true. This evidence indicates a thickening of the corneum as the major factor in determining tolerance.

Practical Applications

Quantitative aspects. The usual measure of the effect of sunburn on the skin is the degree of erythema developed in response to a given dose of ultraviolet radiation. These effects, however, are subject to considerable uncertainty, owing to the number of variable factors influencing the erythema reaction. These include the transmissibility of the corneum in determining the amount of radiation reaching the living cell. The development of the erythema is known to vary in different persons, and the complex nature of the reaction itself makes measurement extremely difficult. Heating of the skin has been shown to shorten the time of appearance of the erythema but to have little effect on the erythema threshold. Sulfanilamide, on the other hand, lowers the threshold, and probably other drugs have similar effects. The erythema threshold varies considerably among different persons, and in the same persons from time to time and from one skin area to another. There is a widely held belief that there is a close relation between the type of complexion and susceptibility to sunburn, but exceptions to these rules are well known. The erythema threshold remains the best yardstick of dosage for clinical use, in the absence of any measuring device equal or superior to it.

Cancer. There is strong evidence of a relation between ultraviolet radiation and human cutaneous cancer. In support of this concept are the facts that cancer of the skin occurs principally on the parts of the body most exposed to sunlight, is more frequent among outdoor than among indoor workers, is greatest in the regions of the earth receiving the greatest radiation and is less frequent in the Negro race than in the white race, and that cancer may be produced in the skin of laboratory animals by exposure to ultraviolet radiation.[31] The latter has also been shown to induce mutations in certain organisms.

Vitamin D. Much of the propaganda concerning the beneficial effects of sunlight and ultraviolet radiation is based on the only clear-cut beneficial effect known to be produced — namely, the formation of vitamin D and the resultant antirachitic action. It is now well known that vitamin D is formed by the action of ultraviolet rays of wave lengths shorter than approximately 320 millimicrons on 7-dehydrocholesterol or some closely similar precursor steroid compound. The photochemical reaction responsible for this process takes place near the surface of the skin, probably in the corneum. Further discussions of this subject may be found in any standard textbook of medicine or physical medicine.

Photosensitization. Minor quantitative and qualitative variations in susceptibility to sunburn are well known. When these deviations are considerable, sensitivity is said to exist and may be induced by the presence of certain photosensitizers in the body. Among substances possessing photodynamic action may be mentioned various dyes and pigments, particularly porphyrin. A complete discussion of these rather rare conditions may be found in Blum's[32] book on the subject.

Other effects. As knowledge concerning the cutaneous effects of sunlight accumulates, there is less evidence to credit numerous claims of widespread benefit. Wave lengths longer than 320 millimicrons have no specific photochemical effect other than pigment darkening, which extends through about 420 millimicrons. Wave lengths shorter than 320 millimicrons are known to have bactericidal action. Ultraviolet radiations of wave lengths that produce sunburn cause injury to the cells of the cornea and conjunctiva, resulting in a condition characterized by pain, visual disturbances, photophobia with excessive secretion, edema and purulent discharge. Such sunburn of the eye, however, does not confer protection against subsequent exposure. This condition also frequently results from exposure to artificial sources of radiation, particularly welding arcs. The damage to the eye from looking directly into the sun, as during an eclipse, is probably due to heating of the retina by infrared radiation rather than ultraviolet. The high incidence of cataract among glass blowers is also thought to be due to the infrared radiation rather than the ultraviolet.

In considering the systemic effects of sunlight, the solar heat load must be considered. This, of course, varies under different climactic conditions, and the changes produced are the same as those imposed by heat from any source. Circulatory changes are known to result from the heat absorbed. Systemic circulatory changes may also result from sunburn itself, with a lowering of the blood pressure and a slight increase in cardiac output, probably from general peripheral arteriolar dilatation. This may be due to the release of leukotaxine or some similar substance, which causes a generalized lowering of capillary permeability. Ultraviolet radiation

is said to produce a slight increase in red-cell, white-cell and platelet counts, although reports in this regard are not uniform. Light effects on basal metabolism have been reported, but the only clear-cut effect is that resulting from production of vitamin D, which affects the calcium phosphorus metabolism. No effects on growth can be ascribed to sunlight other than those exerted by vitamin D.

The curative effects of sunlight are repeatedly described and are usually attributed to ultraviolet radiation, presumably of wave lengths shorter than 320 millimicrons. Although rickets can be cured by either sunlight or artificial sources of ultraviolet radiation of wave lengths shorter than 320 millimicrons, other definite therapeutic values are not well substantiated. Some exception to this statement, however, may be found in the successful reports of Finsen's treatment of lupus vulgaris with sunlight and artificial ultraviolet radiation. The effect of the latter in prevention of the common cold is of considerable general interest. The reports of different investigators, however, show different results. Maughan and Smiley[33] reported a 40 per cent reduction of colds in exposed subjects as compared with controls. Other observers, however, found extremely slight differences between exposed and controlled groups. Colebrook's[34] studies suggest that the curative effects are similar to those produced by placebos.

The use of ultraviolet radiation in the treatment of a number of dermatologic and medical conditions has previously been described in this series of reports[35] and is summarized in the *Handbook of Physical Medicine* published by the American Medical Association in 1945. These conclusions are largely based on clinical observation and are subject to more intense study and research.

Shorter wave lengths of ultraviolet radiation are beginning to be used more extensively to sterilize the air in operating rooms and to prevent spread of infection in hospital rooms, schools and similar places. This aspect of ultraviolet radiation goes beyond the scope of this paper.

(To be concluded)

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MASSACHUSETTS MEDICAL SOCIETY

PROCEEDINGS OF THE COUNCIL

Stated Meeting, February 6, 1946

A STATED meeting of the Council of the Massachusetts Medical Society was held on Wednesday, February 6, 1946, at 10:30 a.m., in John Ware Hall, 8 Fenway, Boston. The meeting was called to order by the president, Dr. Reginald Fitz, Suffolk. Dr. Michael A. Tighe, Middlesex North, served as secretary; 152 councilors (Appendix No. 1) were present.

The President read the following obituaries:

TIMMINS. Dr. Edward F. Timmins died on December 11, 1945. He was sixty-four years old at the time of his death. He was a native of Boston and was educated in medicine at the Harvard Medical School, graduating *cum laude* in 1904. He soon entered practice in South Boston, where he became a well known physician.

From earliest days he was a man of studious habits. In later life he demonstrated astonishing intellectual versatility: he was a poet and an authority in American, English and Irish history, he had discriminating taste in music, he knew ornithology, and he was a well known art critic. Thus he was continuously interested in various extraprofessional affairs: an eminent member of the Audubon Society, the Bostonian Society, the Charitable Irish Society and other nonmedical organizations.

In medicine he proved a devoted public servant, serving for many years as medical inspector of the South Boston district and supervising physician for the Boston School Department.

He was a member of the American Medical Association and of the South Boston Medical Club, of which he had been president. He became a fellow of the Massachusetts Medical Society in 1911; he first served as councilor in 1936, he was appointed to the Committee to Study the Practice of Medicine by Unregistered Persons, and was elected a censor by his district society in 1944.

His sound judgment, keen memory and adroitness in debate and, above all, his loyalty to the traditions of the Society frequently influenced the Council to proper action.

Dr. Timmins is survived by his widow, two sons and two daughters.

MCNAMARA. Dr. John J. McNamara died on January 3, 1946. He was seventy-five years old at the time of his death. He was a New Yorker by birth but was adopted by Massachusetts more than sixty years ago. He received his medical education at Tufts College Medical School, obtaining his medical degree in 1900. From his early days he was a man of singular industry and alertness; an athlete-scholar who played both baseball and football for his college as a medical student and at the same time served as an assistant in the Department of Chemistry.

He entered practice in Brockton. As a practitioner his interest in sportsmanship continued for many years, and his appearance at the Brockton Fair, driving in a sulky behind a trotting horse, came to be looked on as one of the Fair's important annual features. He was always a genuine patriot; in 1912 he was appointed by Governor Foss as associate medical examiner, during World War I he served as captain in the Medical Corps of the Army, and more recently he had been physician for the Veterans Bureau.

He was a member of the American Medical Association, the Massachusetts Examining Physicians Association and the Plymouth District Medical Society, of which he had been president. He became a fellow of the Massachusetts Medical Society in 1903; he first served as councilor in 1927; he was a supervising censor during 1933-1937; and he was elected to the Committee on Legislation by his district society in 1943. His wide acquaintance and great popularity, combined with his wisdom, made his work here particularly valuable.

Dr. McNamara is survived by two brothers and a sister.

WOODWARD. Dr. Samuel B. Woodward died on January 29, 1946. He was in his ninety-third year at the time of his death. Born in Worcester, he received his medical education at the Harvard Medical School, where he graduated in 1878. After an internship at the Boston City Hospital and a period of postgraduate study in Europe, he returned to Worcester, where he practiced for forty years. He grew increasingly eminent in his profession and before his retirement from active practice came to occupy high positions on the staffs of the Memorial, St. Vincent's and Worcester City hospitals. As time went on, his activities and responsibilities outside of medicine grew to be unusually varied: he became a trustee of the Worcester Insane Hospital, where his grandfather had been superintendent; he was an incorporator of the Worcester County Institution for Savings and later its president; he was an officer of the Antiquarian Society; he became a director of several banks and industries; he served as chairman of the Citizens' Planning Committee of Worcester. All in all, he had a rare talent for inspiring confidence; and throughout his long career his opinion on a wide range of affairs was earnestly sought by a variety of people with differing interests.

He was a member of the American Medical Association, the Massachusetts Medical Benevolent Society, the Worcester Society for Medical Improvement and the Worcester District Medical Society, of which he had been president. He became a fellow of the Massachusetts Medical Society in 1877, at the end of his third year in medical school, and a councilor in 1902. In 1911 he served on the Committee on Ethics and Discipline. In 1913 he was appointed to a committee to improve workmen's compensation laws. In 1916 he was elected president of the Society and served for a term of three years, among other contributions, presenting to the Society typewritten copies of the Council records from 1781 to 1823 and of the Charter Books — a gift of great importance not only to the Society but to all medical historians. During these years, he also served as chairman of the Committee on State and National Legislation, arguing valiantly for appropriate vaccination laws to prevent outbreaks of smallpox. After having served as president, he acted for two years as chairman of the Committee on Membership and Finance. In 1920, he was instrumental in introducing House Bill 1124, which became law in 1921; this authorized the Society to engage in publishing a journal to be devoted mainly to medical and surgical science — an act for which readers of the *New England Journal of Medicine* must forever be grateful. In 1921, he read, at the annual meeting, his most distinguished medical paper, "Legislative Aspects of Vaccination." This continues to be a model of medical information.

Before the Stated Meeting of the Council was called to order by President Phippen in February, 1941, Dr. Woodward signed the attendance book for the last time. Until his death, he continued to be interested in the Society's welfare, having been steadfastly devoted to it without interruption for sixty-nine years.

Dr. Woodward was the last of his family.

At the request of the President the Council stood for one minute in silent tribute to the memory of these former councilors.

The President in referring to a silver pitcher, which was on display on the rostrum, spoke as follows:

In 1881, sixty-five years ago, Dr. Benjamin Cotting, a former President, presented the Council with this silver

water-pitcher, which he hoped thereafter would always be used at Cotting luncheons. The pitcher had been given him in token of friendship by Dr. George Hayward, secretary of the Society from 1826 to 1832 and president from 1852 to 1855. The growth in size of the Council and the change in character of the luncheons have made it difficult to carry forward Dr. Cotting's wishes in regard to the pitcher. It is in attendance at today's meeting, however, out of deference to his desires.

The Secretary presented the record of the last stated meeting of the Council held on October 3, 1945, as published in the *New England Journal of Medicine*, issue of December 20, 1945. He moved its acceptance. This motion was seconded by Dr. David Cheever, Suffolk, and it was so ordered by vote of the Council.

Reports of Committees

Executive Committee — Dr. Michael A. Tighe, Middlesex North, secretary.

This report, which was submitted by the Secretary, is as follows:

The report of the Executive Committee of the Council has already been sent to each councilor. This has been done in anticipation of the adoption of a new rule which will make such action mandatory on the part of the Secretary. Under this rule not only will the action of the Executive Committee be reported in advance but likewise there will be presented in advance a résumé of the discussion attending any important subject before the committee.

It is hoped that this may be a means of anticipating and answering many questions, the asking and answering of which consume much of the Council's time.

The Secretary regrets that, owing to circumstances over which he had no control, when the original report of the Executive Committee of the Council was sent out, the résumé of the discussion which attended two important subjects could not be included. These résumés will appear in their proper setting in the report which will now be submitted.

The Executive Committee of the Council reviewed the reports of the Committee on Finance and the budget submitted by the committee for the year 1946. It approves of the budget and of the recommendations contained in this report.

The Executive Committee has reviewed the report of the Committee on Public Relations.

The first recommendation contained in this report has to do with a plan whereby graduates of approved schools who are licensed to practice medicine in Massachusetts may be permitted to care for their patients in approved hospitals and participate in certain other activities of such hospitals. This plan in no way attempts to dictate to any hospital what its policy shall be. It recognizes that, already, certain hospitals have adopted this plan or some modification of it and that others might be encouraged to do likewise. This plan realizes the teaching possibilities which are inherent in all hospitals and the necessity of utilizing these possibilities in the interest of good medical care for all the people of the community.

In the discussion, which attended the subject, it was said that two out of every seven licensed physicians in Massachusetts were graduates of unapproved medical schools, that the medical care of many thousands of Massachusetts citizens was in the hands of such graduates and that many of them are in need of the additional training which may be had by some form of association with a good hospital.

It was further brought out that, at least for the moment, the unapproved schools in Massachusetts have been discontinued. While no one could say what the future holds in this respect, it was the tendency of the committee to regard it as a problem which was closed, leaving finally to be dealt with a backlog of imperfectly trained physicians who needed our help if the people of the Commonwealth were to have the kind of medical care to which they were entitled.

What would be the attitude of the Council on Hospitals and Medical Education of the American Medical Association if the hospitals of this state were to adopt some such plan? Would such hospitals lose their rating as hospitals approved for intern training? These are some of the questions to which the committee directed its discussion.

While it was indicated that, until some such formal plan as outlined was approved by the Massachusetts Medical Society and presented to the Council on Hospitals and Medical Education, no formal action might be expected from this source, it did come out that the plan had been informally discussed with the secretary of the Council on Hospitals and Medical Education of the American Medical Association and that he thought it represented a practical way of cleaning up a bad situation. He also expressed it as his opinion that the Council on Hospitals and Medical Education would not penalize the hospital that adopted it.

The attitude of the American College of Surgeons has not been ascertained but here, too, it is unlikely that the plan would be formally approved, pending its approval by the Massachusetts Medical Society.

It was the opinion of the committee that, while not all would avail themselves of the privileges called for in the plan, many might be expected to do so.

Finally, it was also the opinion of the committee that it was much more desirable for the hospitals to voluntarily adopt some such plan as this rather than run the risk of having their doors forced open by legislative enactment.

The Executive Committee recommends that the Council approve this plan.

In the event that this plan is approved when it is formally before the Council, the Executive Committee recommends that its activation shall be through the Committee Appointed to Confer with the Massachusetts Hospital Association.

The second recommendation contained in this report deals with certain principles which should govern the relation of the United States Veterans Administration, civilian physicians and civilian hospitals in the medical and hospital care of those for whom this administration is responsible.

The Executive Committee took note of the tremendous problem which confronts the Veterans Administration in this regard and the Administration's utter inability to meet the requirements of the law without the active and wholehearted co-operation of the civilian physician and civilian hospital. The Committee on Public Relations, in noting the emergency character of the problem involved, made representations to the President dealing with the necessity of immediate action. In compliance with such representations, the Executive Committee noted that the President appointed a committee of the Society to confer with Major General Paul R. Hawley, Acting Surgeon General of the Veterans Administration.

The Executive Committee approved of this act of the President. It recommended that the Council do likewise.

The Secretary moved the adoption of this recommendation. This motion was seconded by Dr. Albert A. Hornor, Suffolk, and it was so ordered by vote of the Council.

The Secretary continued the report as follows:

The last recommendation contained in the report of the Committee on Public Relations is to the effect that, if at any time the Massachusetts Medical Society recommended that the prevailing rate of fees be reduced for the medical care of tax-supported cases, this action be rescinded.

The discussion attending this subject indicated that in May, 1945, the Executive Committee, acting for the Council, approved of the policy of paying physicians for the care of welfare cases in unstaffed hospitals at the rate of $4.00 for the first visit and $2.00 for each succeeding visit, not to exceed a total sum of $150.00. It came out in the discussion that the Franklin District Medical Society had long since arranged for the payment of regular fees in tax-supported cases. The representative of the Franklin District Medical Society present at the com-

mittee meeting said that this arrangement was working well. He added that a committee of physicians from the district society sat in judgment on disputed bills and that its decisions were accepted by all concerned.

The representative for the Norfolk South District Medical Society said that a similar arrangement was in operation in his community and that it even applied to welfare cases that were being treated in hospitals having regular staffs.

The Executive Committee recommends the adoption of this recommendation and such others as are contained in this report.

The Executive Committee reviewed the report of the Committee on Legislation and recommends its acceptance.

The Executive Committee has reviewed the report of the Committee on Cancer. It approved the report and the recommendation contained in it.

The Executive Committee has reviewed the report of the Committee on Medical Defense. As it interprets this report, it contains a recommendation that a committee be set up for the purpose of reviewing the subject of malpractice insurance. The Executive Committee approved this report and the recommendation contained in it.

The Executive Committee reviewed the report of the Committee on Ethics and Discipline and that of the Medical Advisory Committee to the Regional OPA. It approves of both.

The Executive Committee has reviewed the report of the Committee on Public Health. It noted that the chairman of the committee wished to amend the recommendation contained in it so that the Council is now asked to approve the committee's sending a letter, through and at the expense of the American Epilepsy League, Incorporated, to all the physicians in Massachusetts, offering literature on the latest advances in the treatment of epilepsy to those who are interested.

The Executive Committee approves of this change because it believes the original language would involve the Society in a commitment which it should not be asked to assume.

Action on this recommendation will be sought when the report of the Committee on Public Health is formally before the Council.

The Executive Committee reviewed the report of the Committee on Postwar Planning. It approved the report and the recommendations contained in it. It recommends that two additional recommendations be added to this report, namely

That the Council authorize the President to appoint a special committee for the purpose of initiating plans for a postgraduate assembly in 1946.

That the Council, with the approval of the Committee on Finance, authorize an extraordinary appropriation of one thousand dollars for the use of this committee.

Action on these additional recommendations will be sought when the report of the Committee on Postwar Planning is formally before the Council.

The Executive Committee has reviewed the report of the Military Postgraduate Committee. It approves of this report and, in recommending the adoption of the committee's recommendation that it be discharged, would add the words, "with thanks."

The Executive Committee reviewed the report of the Committee on Council Rules. It approves of the recommendations contained in it.

The Executive Committee reports that a motion recommending that the Council set the membership dues at $20.00 per year beginning in 1947 was laid on the table until the next meeting of the committee.

The Secretary moved the adoption of the report as a whole. This motion was seconded by Dr. Carl Bearse, Norfolk, and it was so ordered by vote of the Council.

Committee on Finance — Dr. Francis C. Hall, Suffolk, chairman.

This report (Appendix No. 2) was submitted by the chairman. He moved the adoption of the report and the budget submitted. This motion was seconded by Dr. Peirce H. Leavitt, Plymouth.

The President, in commenting on the budget, said that it represented the largest ever submitted.

Dr. Hall's motion was adopted by vote of the Council.

Committee on Public Relations — Dr. Albert A. Hornor, Suffolk, secretary.

This report (Appendix No. 3) was submitted by the secretary of the committee who moved its acceptance. This motion was seconded by Dr. Roy J. Heffernan, Norfolk.

Dr. Cheever asked whether or not the term "community hospitals" as used in the report meant tax-supported hospitals. Dr. Hornor replied that they referred to any hospital serving a community whether tax-supported or otherwise.

The motion to accept the report was adopted by vote of the Council.

The President said that the report contained many recommendations. The first requested that the Council adopt a plan whereby certain licensed physicians in Massachusetts, who have graduated from unapproved medical schools, may obtain hospital privileges in certain community hospitals. He added that the plan, to be effective, entails approval by the American College of Surgeons, the American Medical Association and the Massachusetts Hospital Association, as well as that of the Council of the Massachusetts Medical Society.

Dr. Hornor moved that the Council adopt the plan as outlined in the report. This motion was seconded by Dr. H. Quimby Gallupe, Middlesex South. Dr. Gallupe made a strong and effective plea for the adoption of this plan.

Dr. Allen G. Rice, Hampden, asked for a definition of the terms "staff meetings" as they appear in the report. Dr. Hornor said that these terms referred to meetings of the staff as a whole wherein were studied interesting and difficult cases, where deaths were analyzed and the whole professional conduct of the hospital reviewed.

Dr. Rice asked whether or not these terms meant that those covered under this plan would be invited to attend staff meetings where officers were elected and new appointments and promotions were considered. Dr. Gallupe, in replying to this question, said that the functions outlined in Dr. Rice's question represented the duties of an executive committee of the staff rather than that of the staff as a whole and that the terminology used in this report referred to the educational meetings of the staff wherein only the professional activities of the hospital were reviewed.

The plan as outlined was adopted by vote of the Council.

The Secretary moved the adoption of the recommendation of the Executive Committee to the effect that the activation of this plan be through the Committee Appointed to Confer with the Massachusetts

Hospital Association. Dr. Hornor seconded this motion, and it was so ordered by vote of the Council.

The President said that the second recommendation contained in the report of the Committee on Public Relations was to the effect that the Council affirm its belief, in answer to the Honorable Philip J. Philbin, that the most satisfactory and economical care of veterans in Massachusetts can be obtained by granting them right to free choice of licensed physicians, at prevailing rates in their own communities; and, if hospitalization is required, in local licensed hospitals of their own choice; and that each district society be advised to appoint a special committee authorized to meet on call by the Veterans' Bureau to adjust any disputes or difficulties that might arise under such a program.

Dr. Hornor moved the adoption of this recommendation. This motion was seconded by Dr. Charles J. Kickham, Norfolk, and it was so ordered by vote of the Council.

The President outlined the third recommendation contained in this report as follows:

> That each district society shall be advised to appoint a special committee to act in an advisory capacity with local boards of public welfare so that recipients of Old Age Assistance may have free choice of physicians and so that physicians so employed may be properly paid for their services.

Dr. Hornor moved the adoption of this recommendation.

In seconding this motion Dr. John J. Dumphy, Worcester, said that there is a new provision in the law which requires that welfare recipients be allowed free choice of physician. He said that the Commissioner of Public Welfare in Boston took the initiative in this matter and sought a meeting with the Subcommittee on Tax-Supported Medical Care and that this committee had turned the problem, as it related to Boston, over to the Suffolk District Medical Society.

He added that the commissioners of public welfare in other communities might not take this same initiative and that he believed other districts should be urged through the instrumentality of the provision of this recommendation to seek out their respective commissioners, so that this provision of the law might be fully realized.

The motion was adopted by vote of the Council.

The President outlined the fourth and final recommendation of the Committee on Public Relations as follows:

> That if, at any time, the Council of the Massachusetts Medical Society recommended that the prevailing rate of fees be reduced for the medical care of tax-supported care, this action be rescinded.

Dr. Hornor moved the adoption of the recommendation. This motion was seconded by a councilor.

Dr. Dumphy urged the rejection of the recommendation. He said that it had never been considered by the Subcommittee on Tax-Supported Medical Care that its adoption would put the whole profession in an undesirable light before the public.

Dr. Elmer S. Bagnall, Essex North, said he supported this recommendation in principle but not in practice. He thought its adoption at this time might precipitate great difficulties. He thought the matter involved would be better handled on a local level and that while the recommendation did not make it mandatory that local groups insist on full fees for the care of the cases involved, he thought it unwise to adopt the recommendation at this time.

Dr. Leroy E. Parkins, Suffolk, amended the motion to adopt so as to provide for the deletion of the word "rescinded" as it appears at the end of the recommendation and the substitution of the words "reviewed by the Subcommittee on Tax-Supported Medical Care." This amendment was seconded by Dr. Bagnall.

Dr. Hornor said that this matter had been discussed fully in the Committee on Public Relations and that it came out that certain districts were acting on the basis of full fees for tax-supported medical care, that this seemed to be in conflict with a former vote of the Council of the Massachusetts Medical Society and that the recommendation was brought in for the purpose of removing the conflict.

The motion as amended was adopted by vote of the Council.

Dr. Hornor moved the adoption of the report as a whole, as amended. This motion was seconded by Dr. Cheever, and it was so ordered by vote of the Council.

Committee on Legislation — Dr. Reginald Fitz, Suffolk, acting chairman.

The President said that this report (Appendix No. 4) was informational only.

Dr. Bearse moved its adoption. This motion was seconded by Dr. James P. O'Hare, Suffolk. It was so ordered by vote of the committee.

Committee on Cancer — Dr. George A. Moore, Plymouth, chairman.

This report (Appendix No. 5) was presented by the chairman, who moved the acceptance of the report as printed. This motion was seconded by Dr. John B. Hall, Norfolk. It was so ordered by vote of the Council.

The President said the report contained one recommendation, which was to the effect that the Council endorse, in principle, instruction about the disease cancer in the public schools of Massachusetts.

Dr. Moore moved the adoption of the recommendation. This motion was seconded by a councilor.

Dr. Lester M. Felton, Worcester, in registering his opposition to this recommendation, questioned its value. The recommendation was adopted by vote of the Council.

Dr. Moore moved the adoption of the report as a whole. This motion was seconded by Dr. Hall, and it was so ordered by vote of the Council.

Committee on Medical Defense — Dr. Arthur W. Allen, Suffolk, chairman.

In the absence of Dr. Allen, the Secretary submitted the report (Appendix No. 6) as published and moved its acceptance. This motion was seconded by Dr. Bagnall, and it was so ordered by vote of the Council.

The President said that this report contained two recommendations as follows:

That a special committee of five be appointed by the President to review the matter of malpractice insurance, the report of such a committee to be submitted at the next meeting of the Council.

That the Secretary shall notify Mr. Nolan that the proposal to the Society outlined in his letter of November 17, 1945, is under advisement.

The Secretary moved the adoption of these recommendations. This motion was seconded by Dr. Bagnall, who spoke of a conversation which he had a year ago with the President of the Pennsylvania State Medical Society about the cost of malpractice insurance in that state. He said that the latter said they had a very happy situation in that state, where the coverage costs as little as $8.00 per year.

Dr. Hornor moved as an amendment to the motion to adopt that the committee appointed under these recommendations be given authority to employ counsel if, in its opinion, such employment is deemed necessary. This amendment was seconded by a councilor.

Dr. Bearse said that a previous attorney general of Massachusetts had ruled that group insurance along this line is illegal in Massachusetts.

The motion as amended was adopted by vote of the Council.

The Secretary moved the adoption of the report as a whole as amended. This motion was seconded by Dr. John B. Hall, and it was so ordered by vote of the Council.

Committee on Ethics and Discipline — Dr. Ralph R. Stratton, Middlesex East, chairman.

This report, which is as follows, was offered by the chairman:

The work of the Committee on Ethics and Discipline since the last meeting has been merely one of routine and requires no report at this time.

The following letter was referred by the Council to the Committee on Ethics and Discipline.

October 1, 1945

Reginald Fitz, M.D.
319 Longwood Avenue
Boston, Massachusetts

Dear Dr. Fitz:

We wish to employ at the Newton Hospital a doctor who has only a dental degree. For a number of years, he was engaged in the practice of oral surgery in Boston, retiring before the war. Since Pearl Harbor, he has put in a little over a year as a volunteer anesthetist and has carried out that work very efficiently and has met the approval of the surgeons with whom he has worked.

Our question is, Is it proper for a man possessing a dental degree to work as an anesthetist in the Newton Hospital under my supervision?

We would appreciate an early answer. Thanking you, I am

Sincerely yours,

R. S. Hunt, M.D.
Anesthetist in Chief

It was moved by Dr. Rice and seconded by Dr. Gardner that, because of the shortness of trained anesthetists and because of the present emergency, it is not unethical to employ the dentist mentioned in the communication provided his work is supervised by Dr. Hunt. It was so ordered by vote of the committee.

Dr. Stratton moved the acceptance of the report. This motion was seconded by Dr. Charles E. Mongan, Middlesex South, and it was so ordered by vote of the Council.

Dr. Stratton said the Committee on Ethics and Discipline received a letter, addressed to the President, from Dr. R. S. Hunt, of the Newton Hospital. This letter, he added, was reproduced in the committee's report, as was the action of the committee with regard to it. He moved that the Council approve of this action of the committee. This motion was seconded by Dr. Bearse, and it was so ordered by vote of the committee.

Dr. Stratton moved the adoption of the report as a whole. This motion was seconded by Dr. Leavitt, and it was so ordered by vote of the Council.

Medical Advisory Committee to Regional OPA — Dr. Joseph Garland, Suffolk, chairman.

This report, which is as follows, was offered by the chairman:

This committee held its latest and perhaps its last full meeting on September 20, 1945. At that time, so soon after the war's ending, processed food had already gone off rationing, and rationing had been relaxed on red-point foods. Applications, however, continued to come in, particularly for extra sugar.

On November 23, the day after Thanksgiving, rationing was finally abandoned on all foods except sugar. Sugar will remain scarce until the Philippine crop is available, and will probably continue to be rationed, according to our advices, until April, 1946. Until then, this committee will need to function to some degree. The present allotment of sugar is one-fourth pound weekly per individual.

It apparently seems unfortunate to certain people that privations must continue to exist in the postwar world, but we believe that they can be guaranteed against any unusual health hazard even if their requests for extra sugar are ordinarily denied.

This report is offered for the information of the Council.

Dr. Garland moved the acceptance of this report. This motion was seconded by Dr. John B. Hall, and it was so ordered by vote of the Council.

Dr. Stratton moved the adoption of the report. This motion was seconded by Dr. Felton, and it was so ordered by vote of the Council.

Committee on Public Health — Dr. Roy J. Ward, Worcester, chairman.

This report (Appendix No. 7) was offered by the chairman, who moved its acceptance subject to the recommendation of the Executive Committee. This motion was seconded by Dr. Bagnall, and it was so ordered by vote of the Council.

Dr. Ward moved the adoption of the report subject to the amendment recommended by the Executive Committee. This motion was seconded by Dr. Bagnall. This recommendation is to the effect that the Council approve the Committee on Public Health sending a letter, through and at the expense of the American Epileptic League, Incorporated, to

all physicians in Massachusetts offering literature on the latest advances in the treatment of epilepsy to those who are interested.

The motion was carried by vote of the Council.

Committee on Postwar Planning — Dr. Howard F. Root, Suffolk, chairman.

The Secretary offered this report (Appendix No. 8) in the absence of Dr. Root and moved its acceptance. This motion was seconded by Dr. Felton, and it was so ordered by vote of the Council.

The President said that the report contained three recommendations:

The first he outlined as follows:

> That the Council, in accordance with its previous action, shall inform the Committee on Education and Labor of the United States Senate and other appropriate authorities of its belief that the Federal Government should establish a Department of Health and Welfare with a secretary in the President's Cabinet, under whom will be co-ordinated all important health and welfare programs, exclusive of those of the Army and Navy, the Division of Health being under the direction of a physician.

Dr. Richard M. Smith, Suffolk, moved that the recommendation be tabled. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

The above action was taken because, during the debate attending this subject, it seemed to many that there were other governmental departments which should be excluded from the provisions of the recommendation and because the Council did not deem itself sufficiently informed at the moment to name such departments.

The President outlined the second recommendation as follows:

> That the Society shall offer its services, through a special committee of five appointed by the President, to the Council on Medical Education and Hospitals of the American Medical Association to assist that council in the provisional approval for internships and residencies of certain Massachusetts hospitals.

Dr. Felton asked the meaning of the term "certain Massachusetts hospitals." The President replied that it referred to those hospitals that might seek such approval.

The Secretary moved the adoption of this recommendation. The motion was seconded by a councilor, and it was so ordered by vote of the Council.

The President outlined the third recommendation, as amended by the Executive Committee, as follows:

> That the Council initiate plans for a postgraduate assembly in 1946 through a special committee of five appointed by the President and that an extraordinary appropriation of $1000 be made for this purpose with the approval of the Committee on Finance.

The Secretary moved the adoption of this recommendation. This motion was seconded by a councilor.

Dr. Parkins moved as an amendment "that other state societies of New England be invited to participate as before the war." This amendment was seconded by a councilor.

The recommendation as amended was adopted by vote of the Council.

Dr. W. Richard Ohler, Norfolk, moved the adoption of the report as a whole as amended. This motion was seconded by Dr. Frank R. Ober, Suffolk, and it was so ordered by vote of the Council.

Military Postgraduate Committee — Dr. W. Richard Ohler, Norfolk, chairman.

The report, which is as follows, was submitted by the chairman:

> Postgraduate instruction for men in the armed services throughout the country ceased with the close of 1945. In so far as the work of your committee is concerned, the last programs were given in November, 1945.
>
> Postgraduate military instruction started in Massachusetts in November, 1942, and was directed by the Military Postgraduate Committee of the Massachusetts Medical Society. In the spring of 1943 the American Medical Association, the American College of Physicians and the American College of Surgeons inaugurated a program of postgraduate medical instruction for physicians in the armed services throughout the country. By mutual consent and as a result of very pleasant co-operation on the part of all concerned, it was agreed during the summer of 1943 to centralize all the work of providing military postgraduate instruction throughout New England into one committee to be known as the New England Committee for Wartime Graduate Medical Meetings. The work of this committee was sponsored by the medical societies of all the New England states together with the American Medical Association, the American College of Physicians and the American College of Surgeons. It is to the credit of the Massachusetts Medical Society that this work was started a full year prior to the organization of the national body.
>
> Since the fall of 1942, four hundred and twenty-eight postgraduate sessions have been given in twenty-three Army, Navy and Coast Guard installations throughout New England. There is plenty of evidence indicating that this work has been tremendously appreciated by the armed services. It goes without saying that the success of the program in New England results from the unselfish efforts of the many instructors who took part in these programs.
>
> It is recommended that the committee be discharged.
>
> It is further recommended that a copy of this report be sent to the other New England state medical societies.

Dr. Ohler moved the acceptance of the report. This motion was seconded by Dr. Ober, and it was so ordered by vote of the Council.

The President pointed out that the report, as amended by the Executive Committee, contained two recommendations:

> That the committee be discharged with the thanks of the Society.
>
> That copies of the report be sent to the military postgraduate committees of the other state medical societies of New England.

Dr. Smith moved the adoption of the recommendations as amended. This motion was seconded by Dr. Felton, and it was so ordered by vote of the Council.

Dr. Ober moved the adoption of the report as a whole as amended. This motion was seconded by Dr. Ohler, and it was so ordered by vote of the Council.

Committee on Council Rules — Dr. Charles E. Morgan, Middlesex South, chairman.

The report, which is as follows, was offered by the chairman:

The first matter considered by the committee had to do with the question of establishing a rule of the Council which would require district councilors to meet and discuss the agenda prior to regular Council meetings. It was voted by the committee not to establish this as a rule but to recommend that the district councilors follow this procedure.

The second matter that was discussed had to do with the report of the Executive Committee. It was believed that this report should contain a résumé of the discussion which took place before the Executive Committee in matters of particular importance. The committee voted to recommend to the Council that a rule providing for such be set up. The committee also voted to recommend to the Council that a further rule be created which would require the Secretary to send to the councilors a week before the Council meeting the report of the Executive Committee.

The Secretary said that these new rules would require the services of a stenographer at the meetings of the Executive Committee. He recommended that the Committee on Council Rules ask the Committee on Finance for an additional appropriation for the Secretary's office of $150 to cover such costs.

Dr. Mongan moved the acceptance of the report. This motion was seconded by Dr. Bearse, and it was so ordered by vote of the Council.

The President said that this report, as interpreted by the Executive Committee, contained several recommendations. He stated the first as follows:

That the Secretary shall be directed by the Council to write annually to each district society president, shortly after the latter's election to office, suggesting that the councilors from his district society be asked to meet regularly, prior to Council meetings, to discuss the agenda of each meeting.

Dr. Mongan moved the adoption of this recommendation. This motion was seconded by Dr. Bagnall, and it was so ordered by vote of the Council.

The second recommendation contained in this report is that two additional rules for its government be adopted by the Council. The first is to be known as Rule 7. This provides that the secretary of the Executive Committee shall prepare a report of each regular meeting of the committee which shall contain an abstract of the discussions and actions of the committee on all matters of particular importance. The second, to be known as Rule 8, provides that the abstract mentioned in Rule 7 be sent to each councilor at least a week before each meeting of the Council.

Dr. Mongan moved the adoption of these recommendations. This motion was seconded by Dr. Smith, and it was so ordered by vote of the Council.

Dr. Fitz said that, with regard to the final recommendation, which called for funds to cover the additional costs made necessary by the adoption of Rules 7 and 8, the Committee on Finance had already acted.

Dr. Mongan moved the adoption of the report as a whole. This motion was seconded by Dr. Leavitt, and it was so ordered by vote of the committee.

A motion to adopt a report of no report from the following committees was made by Dr. Smith and seconded by Dr. Felton: Arrangements, Industrial Health, Medical Education, Nominations, Publications, Society Headquarters, Expert Testimony, To Confer with the Massachusetts Farm Bureau Federation, Maternal Welfare, To Meet with the Massachusetts Hospital Association, To Nominate a Director of Medical Information and Education, To Recommend Blue Shield Directors, Physical Medicine, Postwar Loan Fund and Rehabilitation. The motion was carried by vote of the Council.

The President reminded the Council that, at the stated meeting on October 4, 1944, the Committee on Expert Testimony rendered a report which moved that a standing committee of five or more be appointed by the President, to be called the Committee on Medicolegal Problems and that the by-laws be amended to provide for such a body. The report was received, the President continued, and its motion was warmly debated. The motion was disposed of by being laid on the table. The committee has not reported since that date. The President suggested that action was in order to take this motion from the table so that the Committee on Expert Testimony might feel no restraint in resuming its activities in any manner it deemed proper.

Dr. Leavitt moved to take the matter referred to by the President from the table. This motion was seconded by Dr. Smith, and it was so ordered by vote of the Council.

Appointments by the President

Under the provisions of Chapter IV, Section 7, of the by-laws of the Massachusetts Medical Society, and Chapter I, Section 2, of the by-laws of the American Medical Association, the President nominated the following as delegates and alternates to the House of Delegates of the American Medical Association to serve from June 1, 1946 to June 1, 1948:

DELEGATES	ALTERNATES
Charles E. Mongan, Middlesex South	Patrick E. Gear, Hampden
Dwight O'Hara, Middlesex South	William J. Pelletier, Franklin
Walter G. Phippen, Essex South	John I. B. Vail, Barnstable
David D. Scannell, Norfolk	Elmer S. Bagnall, Essex North

There being no nominations from the floor, the Secretary was instructed to cast one ballot confirming the nomination of those named by the President. The Secretary announced that he had complied with this directive, and the President declared the above elected.

The President announced that, under Chapter IV, Section 7, of the by-laws of the Massachusetts Medical Society, he nominated the following councilors to serve as delegates to the annual meetings in 1946 of the other New England state medical societies:

Connecticut: Frederick S. Hopkins, Hampden; Clement F. Kernan, Berkshire.
Maine: Frank R. Ober, Suffolk; Merrill C. Sosman, Suffolk.
New Hampshire: Dwight O'Hara, Middlesex South; Howard F. Root, Suffolk.

Rhode Island: W. Richard Ohler, Norfolk; Leroy E. Parkins, Suffolk.
Vermont: George Ballantyne, Worcester; William A. R. Chapin, Hampden.

There being no nominations from the floor, the Secretary was instructed to cast one ballot approving the nominations as made by the President. The Secretary announced that he had complied with the directive and the President declared the above elected.

The President nominated Dr. H. Quimby Gallupe, Middlesex South, as delegate for 1946 to the Annual Congress on Medical Education and Licensure of the American Medical Association. This nomination was confirmed by vote of the Council.

The President made the following *ad interim* nominations:

A. Price Heusner, Boston, councilor for the Suffolk District, to succeed Edward F. Timmins, deceased.
Alfred L. Duncombe, Brockton, councilor for the Plymouth District, to succeed John J. McNamara, deceased.
Lewis M. Hurxthal, Boston, censor for the Suffolk District, to succeed Edward F. Timmins, deceased.
Peirce H. Leavitt, Brockton, member of the Committee on Legislation representing Plymouth District, to succeed John J. McNamara, deceased.

The President named Dr. Bancroft C. Wheeler, Worcester, to the Committee on Finance to succeed Dr. Ernest L. Hunt, resigned. The President, in making this latter nomination, said that he had accepted Dr. Hunt's resignation with very real regret. He described him as a loyal and devoted servant, never self-seeking and always working for the Society's good.

Dr. Bagnall moved confirmation of these appointments. This motion was seconded by Dr. Hornor, and it was so ordered by vote of the Council.

The President announced the resignation of Mr. Manfred Bowditch from the Advisory Committee to the Committee on Industrial Health, this resignation being made necessary by reason of Mr. Bowditch's departure from this state. He appointed Dr. Harriet L. Hardy, Middlesex South, to this vacancy, announcing at the same time that Dr. Hardy serves as physician to the Division of Occupational Hygiene in the Department of Labor and Industry.

The President announced his appointment of Dr. Humphrey L. McCarthy, Norfolk, Dr. John J. Dumphy, Worcester, and Dr. Michael A. Tighe, Middlesex North, as a committee to confer with Major General Hawley concerning the medical care of veterans.

He announced that he had appointed Dr. Elmer S. Bagnall, Essex North, Dr. David Cheever, Suffolk; Dr. Roger I. Lee, Suffolk, Dr. Charles E. Mongan, Middlesex South, Dr. Frank R. Ober, Suffolk, Dr. Walter G. Phippen, Essex South, and Dr. George Leonard Schadt, Hampden, as a committee to propose to the Council a director of medical information and education.

He further announced that, in accordance with the vote of the Council, he had appointed the Committee on Rural Medical Service to Confer with the Massachusetts Farm Bureau Federation as follows: Dr. Joseph C. Merriam, Middlesex South, *chairman*, John E. Moran, Franklin, and Patrick J. Sullivan, Berkshire.

He said, in accordance with the action of the Council at its special meeting held on January 9, 1946, he had appointed Dr. Elmer S. Bagnall, Essex North, principal, and Dr. Leland S. McKittrick, alternate, to appear before the appropriate committees of the Congress of the United States for the purpose of making known the views of the Massachusetts Medical Society with regard to Senate Bills 1318 and 1606.

Confirmation of these appointments were moved by Dr. Leavitt. This motion was seconded by Dr. Felton, and it was so ordered by vote of the Council.

New Business

Dr. Arthur N. Makechnie, Middlesex South, speaking for that district, asked that all the members of the Society be polled by postal card as to whether or not they favored the passage of the Wagner–Murray–Dingell Bill (Senate 1606). He said that such members be asked to answer "yes" or "no" and that they designate whether they are specialists or general practitioners. He expressed it as his opinion that such a poll would show 90 per cent in opposition. This matter was referred to the Committee on Legislation.

The following resolution, signed by Basil E. Barton, secretary of the Norfolk District Medical Society, was offered:

As a result of a vote taken by a pre-Council meeting of the Norfolk District Medical Society, held on January 30, 1946, the following resolution was offered:
That it is the sense of the councilors of Norfolk District that a list of the final vote of the Massachusetts legislators on the Chiropractor Bill of 1945 be published in the *New England Journal of Medicine*. This list to be published by districts rather than alphabetically and, if space is difficult to obtain, that it be published in several successive issues, a few districts at a time.

This resolution was referred to the Committee on Legislation.

Dr. James M. Baty, Massachusetts Chairman of the American Academy of Pediatrics, read a communication (Appendix No. 9) addressed to the president, officers and members of the Council of the Massachusetts Medical Society descriptive of a survey which the Academy is conducting as to the medical needs of the children of the United States and the facilities available to meet these needs.

Dr. Baty moved that the Council rules be temporarily suspended so that he might ask for the immediate approval of the survey. The motion to suspend the rules was seconded by Dr. Smith.

Dr. Mongan asked for a restatement of the motion. This Dr. Baty did.

Dr. Mongan, in opposing the motion, said that all such business should come to the Council by way of the Executive Committee, that the proposition

which Dr. Baty intended to offer might be all right but that he for one could not conscientiously vote on it without more information than had been submitted.

Dr. Baty said that, although the survey was going to be made whether the Council approved of it or not, it would help greatly if it had the approval of the established medical organization in Massachusetts.

Dr. Smith said that the pediatricians felt that there had been a good deal of intrusion by governments in pediatric practice and that justification for this intrusion was based on certain statements which might be true or might not be true. He added that it was the purpose of the Academy, in making this survey, to ascertain the true facts. He thought it desirable that the Council should give its blessing to such an undertaking.

Dr. Bagnall urged the suspension of the rules because it should not be said of the Council that it would not co-operate in fact finding.

Dr. William E. Browne, Suffolk, asked Dr. Baty if he knew of this matter of the survey before the last Executive Committee meeting. Dr. Baty replied that he did not. He added that it was within three days that he had been appointed Massachusetts chairman.

Dr. Browne asked Dr. Baty if he believed that this fact finding could be completed quickly enough to be a factor affecting the deliberations of the senate with regard to Senate Bill 1318.

Dr. Baty said that such a survey had been completed in North Carolina in six weeks and that, although the actual analysis of the data accumulated could undoubtedly take a longer time, there would be certain factual determinations which could be used much earlier.

Dr. McCarthy registered his opposition to suspending the rules.

By a standing vote the Council voted to suspend the rules and give immediate consideration to the subject of Dr. Baty's communication.

Dr. Baty moved that the Council of the Massachusetts Medical Society approve of the survey of the Children's Health Services which is being undertaken by the American Academy of Pediatrics. This motion was seconded by Dr. Felton.

Dr. Norman A. Welch, Norfolk, asked for a brief explanation of just what the survey consists of and how extensive it is intended to be.

Dr. Baty replied as follows:

> The way the survey worked in North Carolina, and the way we hope that it will work here, is that a full-time paid executive was appointed to cover the study. He and the state chairman of the Academy of Pediatricians worked in conjunction, first, with the pediatricians in the state who are members of the Academy. They attempted to obtain information concerning pediatric practice, the number of children seen by physicians and so forth.
>
> The thing we are trying to find out first is how much hospitals are doing. We are attempting to collaborate our hospital survey with the one that is being carried on nationally at the moment, and for that reason in some states we are already beginning to collect data by utilizing the findings of the regular hospital survey.
>
> We then want to find out how much in the way of care of children both pediatricians and family physicians or general practitioners are doing, as well as the number of children being seen in clinics, and what type of service is being rendered.
>
> We hope to be able to determine in some way the quality of medical care that is being rendered in hospitals; that will be difficult so far as individuals are concerned, but in hospitals we hope that the pediatricians on the staffs, by filling out the forms, will assist us materially. We are drawing up elaborate questionnaires, regarding participation of various individuals, staff meetings and various things that Dr. Gallupe mentioned in offering assistance to the graduates of substandard schools. In that way we hope to find out the answers to many of these questions.
>
> The way they collected the data about practice in North Carolina was to ask the pediatricians to supply, for a certain period, data concerning the children that they saw in hospitals, in homes and in their offices. We hope to obtain that information from pediatricians, as well as from certain other physicians.
>
> We recognize that only a small proportion of medical care to children is rendered by members of the Academy; indeed, the great majority is given by general practitioners.

Dr. Baty said the Academy was opposed to both Senate Bill 1318 and Senate Bill 1606 and that its suggestions regarding legislation were based almost entirely on the recommendations of the Massachusetts Medical Society.

Dr. McCarthy asked how this survey was to be financed. Dr. Baty replied that he could not answer this exactly but that the total budget would undoubtedly run somewhere around a million dollars. The Academy, he continued, could furnish only a relatively small amount of that sum. Dr. John Hubbard was being paid by the Academy a full-time salary, and not a small salary, for his part of the work. The Academy had raised that money out of its own funds, and would raise certain of the other moneys. He added:

> Some of the funds that are going toward this have been and are being donated by private philanthropic organizations. A great deal of the money will have to be raised locally, and it will be raised in various ways.
>
> A good many of the things that we are trying to find out other organizations want to know. At the moment the Council of the Greater Boston Community Fund is very anxious to find out about health services for children among the organizations that they support, and they have appointed a committee and have allotted a budget to carry out this work.
>
> The survey was successful in North Carolina, and we believe that it will work here. We are having conferences with various organizations, and we believe that these organizations will help in carrying out certain of the work, that is, that they will supply money. We hope that other types of organizations, such as those assisting crippled children, may, in many states, supply some of this money.

The motion was adopted by vote of the Council.

Dr. Parkins moved the suspension of the rules so as to permit an informational report concerning the Bureau of Clinical Information (Appendix No. 10) to be made part of the record of the meeting. This motion was seconded by Dr. Baty, and it was so ordered by vote of the Council.

Dr. C. J. E. Kickham, Norfolk, asked when the resolution submitted by the Norfolk District Medical

Society would be acted on. The President said that the Committee on Legislation could act on it immediately. Dr. Kickham pointed out that, if the list as called for in the resolution is not published within the next few weeks, its publication will have no point.

The Secretary asked to have referred to the appropriate committee the question of the formation of a woman's auxiliary to the Massachusetts Medical Society, which shall be affiliated with the Woman's Auxiliary of the American Medical Association. The President referred the question to the Committee on Public Relations.

The following letter was read by the Secretary:

MASSACHUSETTS HOSPITAL SERVICE, INC.
MASSACHUSETTS MEDICAL SERVICE

January 18, 1946

Dr. Reginald Fitz
319 Longwood Avenue
Boston, Massachusetts

Dear Dr. Fitz:

At a recent meeting in Washington, we attempted to get pay-roll deduction for federal employees. Legislation will be required and a number of government officials suggested that a word of approval from the American Medical Association would be useful. I therefore suggest that appropriate action be taken by the Massachusetts Medical Society recommending approval of the principle of pay-roll deduction for federal employees that they may have Blue Shield and Blue Cross in the usual way. Such action should be transmitted to the American Medical Association to support appropriate action by that group.

I do not see how this can be at all controversial since it is much better to enroll federal employees on a pay-roll deduction basis than by the present cumbersome collection basis. I would thank you very much for instituting appropriate action and I trust that it is quite in order.

Sincerely yours,
R. F. CAHALANE
Executive Director

This letter was referred to the Committee on Tax-Supported Medical Care of the Committee on Public Relations.

The Secretary read certain letters from Dr. Shields Warren. They were referred to the Committee on Public Relations.

The Secretary read a letter from the Greater Boston Medical Society. This letter was referred to the Subcommittee on Postgraduate Education of the Committee on Postwar Planning.

The Secretary read a letter relative to the observance of Social Hygiene Day. This letter was referred to the Committee on Public Relations.

Dr. Bagnall moved that the Council adjourn. This motion was seconded by Dr. Hornor, and it was so ordered by vote of the Council.

The President announced the Council adjourned at 1:50 p.m.

MICHAEL A. TIGHE, *Secretary*

APPENDIX NO. 1

ATTENDANCE OF COUNCILORS

BARNSTABLE
C. H. Keene

BERKSHIRE
I. S. F. Dodd
Solomon Schwager
Helen M. Scoville
P. J. Sullivan

BRISTOL NORTH
W. H. Allen
J. H. Brewster
J. L. Murphy
W. M. Stobbs

BRISTOL SOUTH
E. D. Gardner
C. C. Tripp
Henry Wardle

ESSEX NORTH
E. S. Bagnall
R. V. Baketel
Elizabeth Councilman
H. R. Kurth
P. J. Look
G. L. Richardson
F. W. Snow

ESSEX SOUTH
Bernard Appel
H. A. Boyle
R. E. Foss
Loring Grimes
A. E. Parkhurst
E. D. Reynolds
H. D. Stebbins
C. F. Twomey
C. A. Worthen

FRANKLIN
H. M. Kemp

HAMPDEN
J. L. Chereskin
A. J. Douglas
A. G. Rice
G. L. Steele

MIDDLESEX EAST
J. L. Anderson
Richard Dutton
E. M. Halligan
M. J. Quinn
R. R. Stratton

MIDDLESEX NORTH
A. R. Gardner
M. A. Tighe

MIDDLESEX SOUTH
E. W. Barron
Harris Bass
J. M. Baty
J. D. Bennett
G. F. H. Bowers
Madelaine R. Brown
R. N. Brown
R. W. Buck
E. J. Butler
J. F. Casey
C. L. Derick
J. G. Downing
H. Q. Gallupe
V. A. Getting
H. G. Giddings
Eliot Hubbard, Jr.
F. R. Jouett
A. A. Levi
A. N. Makechnie
P. H. Means
C. E. Mongan
G. M. Morrison
J. P. Nelligan
E. J. O'Brien, Jr.
Fabyan Packard
Max Ritvo
H. P. Stevens
J. E. Vance
C. F. Walcott
B. M. Wein
Hovhannes Zovickian

NORFOLK
B. E. Barton
Carl Bearse
D. J. Collins
William Dameshek
G. L. Doherty
Albert Ehrenfried
H. M. Emmons
J. B. Hall
R. J. Heffernan
I. R. Jankelson
C. J. Kickham
C. J. E. Kickham
F. P. McCarthy
H. L. McCarthy
Hyman Morrison
D. J. Mullane
J. J. O'Connell
W. R. Ohler
H. C. Petterson
D. D. Scannell
J. A. Seth
L. A. Sieracki
Kathleyne S. Snow
S. L. Skvirsky
J. W. Spellman
W. J. Walton
N. A. Welch

NORFOLK SOUTH
D. L. Belding
Harry Braverman
Frederick Hinchliffe
D. B. Reardon

PLYMOUTH
P. H. Leavitt
C. D. McCann
G. A. Moore
B. H. Peirce
W. H. Pulsifer

SUFFOLK
W. H. Blanchard
W. J. Brickley
W. E. Browne
A. J. A. Campbell
David Cheever
Pasquale Costanza
Reginald Fitz
Maurice Fremont-Smith
Joseph Garland
F. C. Hall
A. A. Hornor
R. I. Lee
W. J. Mixter
Donald Munro
H. L. Musgrave
H. F. Newton
R. N. Nye
F. R. Ober
J. P. O'Hare
L. E. Parkins
L. E. Phaneuf
Helen S. Pittman
W. H. Robey
R. M. Smith
J. J. Todd
Conrad Wesselhoeft

WORCESTER
B. H. Alton
A. W. Atwood
George Ballantyne
Gordon Berry
F. P. Bousquet
E. J. Crane
J. J. Dumphy
W. J. Elliott
John Fallon
L. M. Felton
L. P. Leland
W. F. Lynch
R. S. Perkins
O. H. Stansfield
J. C. Sullivan
R. J. Ward
B. C. Wheeler

WORCESTER NORTH
C. B. Gay
J. G. Simmons

APPENDIX NO. 2

Report of the Committee on Finance

The Committee on Finance met on December 12, 1945, at the Headquarters of the Massachusetts Medical Society, 8 Fenway, to discuss the budget of the Society for 1946. Present were Dr. Charles F. Wilinsky and the chairman of the committee, together with the secretary and the treasurer of the Society, Dr. Michael A. Tighe, and Dr. Eliot Hubbard, Jr. Our report follows.

The Massachusetts Medical Society has come through the war years without a deficit, and indeed with a surplus each year. This has occurred despite lower income from membership dues, and despite the loss of $4000 of expected profit from our annual meeting in 1945 because this meeting was not held. This surplus has varied in the past seven years from a low of $4624 in 1938 to a high figure of $18,835 in 1943. Investments in the General Fund (i.e., reserves) have been increasing, and now have reached the sum of $167,614 as of December 31, 1944, exclusive of the Building Fund. Our surplus this year is estimated to be $4042.44. Of this, $2134.52 represents income from the Building Fund, leaving a usable surplus of $1907.92. (We end this year with a bank balance of $12,807, December.)

The budget of 1946 contains three items which promise to increase our income for 1946, as against 1945. The first item is membership dues. We anticipate $45,000 from dues in 1946, compared with $39,000 in 1945. It is possible we shall receive more, as our peak sum from dues has been as high as $51,000. The second item is the Committee on Arrangements (for the annual meeting). We expect $4000 from this source. The third item is the *New England Journal of Medicine*. The *Journal* expects to turn over to the Society after December 31, 1945, $15,000 or more. This item represents a striking change in our budget. Instead of calling for sums of money from the Society varying from $11,000 per year to lower figures in the past few years, the *Journal* has used none of the $8000 allowed in our budget for 1945, and expects to turn over to the Society $15,000 or more. This money can be treated as income for 1946 instead of reserves. The $5000 allocated to the *Journal* in our budget for 1946 represents an emergency item and it is very unlikely that it will be used. We expect money to come from this source in the future, for the number of subscribers to the *Journal* and the advertising rates have greatly increased. The amount will vary. Expected increase in costs next year make the estimated profit for 1946 only $6000 instead of the $19,500 (ten months' operation) or more for 1945. The amount may well be larger.

The expense column of the budget shows some decreases, especially because of the discontinuance of the Committee on Military Postgraduate Teaching. However, the chief characteristic of the expense column is increased expenses. The chief increases lie in greater cost of sending delegates to the A. M. A. Convention, because of its being held in San Francisco, increase in the Secretary's and in administrative expenses, and increased expenses for educational courses for members and for the Bureau of Clinical Information. Not included in the budget is the salary of the projected Director of Information and Education and his expenses — a figure which may represent $8000 to $15,000. Without this item, our expenses next year are estimated at $55,488. Allowing for the expenses of the new director, our expense budget may be $65,000 to $70,000. Our income without money from the *Journal* is estimated at $56,161. Should the *Journal* add $15,000 to our income, we shall have adequate income to pay expenses, with perhaps a little for reserves. If the income from the *Journal* is $6000 or less, as anticipated, we shall undoubtedly have a deficit in 1947. It is clear that our increasing expenses may soon result in a situation where the Society must decide how we shall raise money to meet them.

Peer P. Johnson
Edward J. O'Brien
Charles F. Wilinsky
Francis C. Hall, *Chairman*

* * *

Supplementary Report

Since the meeting of the Committee on Finance and after this report and budget were drawn up, the Committee on Legislation, through Dr. Reginald Fitz, has reported that the number of bills before the Massachusetts Legislature is large and that the Committee on Legislation, therefore, may have unusual expenses.

It is important that sufficient funds be allowed in the budget to be used for legal counsel. We are therefore submitting this request for an additional $2000 for the Committee on Legislation.

* * *

Expenses for 1945 and Budget for 1946

Budget 1945	Expenditures 1945		Budget 1946	Change
		Salaries:		
$3,000	$3,000.00	Secretary	$3,000	
4,000	4,000.00	Executive secretary	4,000	
2,000	2,000.00	Treasurer and assistant treasurer	2,000	
		Expenses of officers and delegates:		
800	613.24	President	450	— 350
200	0	President-elect	200	
3,800	3,542.37	Secretary	4,184	+ 384
2,500	2,082.95	Treasurer	2,100	— 400
500	0	Executive secretary	0	— 500
0	0	Supervising censors	0	
700	880.00	Delegates to House of Delegates (San Francisco)	3,000	+ 2,300
200	200.00	Shattuck Lecture	200	
400	400	Cotting Luncheons	500	+ 100
2,000	2,699.90	General administrative expenses (under supervision of president and secretary)	2,700	+ 700
		Committees elected by district societies:		
400	343.39	Executive	500	+ 100
3,200	3,331.98	Legislative	3,350	+ 150
300 1,000 *	1,369.44	Public Relations	1,200	— 100
		Labor and Industry Public Information		
0	0	Nominations	0	
		Standing committees:		
200	230.43	Arrangements	200	
200	173.76	Ethics and Discipline	200	
25	20.00	Finance	25	
$1,500	$981.78	Medical Defense	1,500	
0	0	Medical Education	0	
100	86.17	Membership	150	+ 50
4,900	4,351.00	Society Headquarters	4,459	— 441
10	15.14	Publications	20	+ 10
8,000	0	*New England Journal of Medicine*	5,000	— 3,000
1,700	1,693.86	*Directory* and miscellaneous	100	— 1,600
200	64.45	Public Health	300	+ 100
200	127.06	Industrial Health	250.00	+ 50
		Special committees:		
0	0	Cancer	0	
50	0	Physical Medicine	0	— 50
		Postgraduate Instruction		
50	0	Expert Testimony	50	
50	32.83	Tax-Supported Medical Care	50	
50	.08	To Meet with Massachusetts Hospital Association	0	— 50
50	0	Maternal Welfare	50	
50	35.65	Rehabilitation	50	
50	8.66	Postpayment Medical Care	0	— 50
1,000	685.84	Military Postgraduate	0	— 1,000
600	22.73	War Participation	0	— 600
1,200	578.95	Postwar Loan Fund	800	— 400
		Bureau of Clinical Information†		
3,000 1,500 *	1,630.17	Postwar Planning	10,500	+ 2,200
	0	(1) Co-ordinating Education ($1,700)		
	0	(2) Hospitals		
	104.15	(3) Medical Economics		
	59.65	(4) Medical Schools		
	32.78	(5) Organization		
	1,532.20	(6) Postgraduate Medical Education ($6,000.00)		
2,800 1,000 *	2,899.15	(*a*) Bureau of Clinical Information ($2,800)		
0	0	Council Rules	50	+ 50
10	10.00	Medical Advisory to OPA	0	— 10
0	0	To Meet with Industrial Accident Board	100	+ 100

0	0	Re: Directors of Blue Shield	0	
0	0	Re: Revision of By-Laws	0	
0	0	Re: Farm Bureau and Rural Medical Services	0	
0	25.00	To Appt: Director of Medical Information and Education	300 +	300
4,000	4,000.00	Refunds to district medical societies	4,000	
$57,495	$43,864.94		$55,538	$1,957 (less)

*Late appropriation.

†Under Postwar Planning Committee.

‡Based on expenses for 10 months and estimates for 2 months.

Detailed Expense Accounts

Expenses of President:		
Newsclip	$45.00	
Lunches	31.03	
Clerical	84.08	
Travel, clerical, telephone (Dr. Bagnall)	418.31	$578.42
Estimate for November and December		
Clerical	$25.00	
Dinners	10.00	35.00
		$613.42
Expenses of Secretary:		
Clerical	$1,695.46	
Postage and mailing	128.56	
Printing	1,126.03	
Diploma tubes	41.88	
Stenographic report of meeting	390.00	$3,381.93
Miscellaneous expenses	$62.72	
Telephone	97.72	160.44
		$3,542.37
Expenses of Treasurer:		
Printing	$239.39	
Clerical	502.83	
Loomis and Sayles	970.23	
Accountants	315.00	
Premium on bond	37.50	
Safe-deposit box	18.00	$2,082.95
General administrative expenses:		
General clerical	117.82	
Office supplies	1,226.21	
Printing	406.50	
Telephone	655.15	
Travel	294.22	$2,699.90
Expenses of Executive Committee:		
Clerical	$145.68	
Dinner meetings	107.71	$253.39
Estimate for November and December:		
Clerical	30.00	
Dinner meetings	60.00	90.00
		$343.39
Expenses of Committee on Legislation:		
Salaries, legislative agent (lawyer) and other expenses		$1,590.00
Supplies:		
Printing and postage	$458.49	
Telegrams	395.99	
Legislative Reporting Service	180.16	
Clerical	233.89	
Meetings	292.80	$1,561.33
Miscellaneous:		
Miscellaneous expense	$25.65	
Legislative directors	20.00	45.65
		$3,196.98
Estimate for November and December:		
Dinners	$60.00	
Clerical	75.00	135.00
		$3,331.98
Expenses of Committee on Public Relations and Subcommittees on Public Information and Labor and Industry:		
Committee on Public Relations:		
Printing	$244.05	
Clerical	74.86	
Dinner meetings	491.43	
Travel	23.00	
Estimate for November and December	100.00	$933.34
Committee on Public Information (now discharged):		
Reports	$25.00	
Miscellaneous and telephone	31.44	
Expenses: Dr. Candler and Dr. Bauer	47.57	
Printing	16.76	
Clerical	21.65	
Dinner meetings	248.72	$391.05
Committee on Labor and Industry:		
Dinner meeting		45.13
		$1,369.52
Expenses of Committee on Arrangements:		
Clerical	$132.98	
Printing and postage	37.45	
Estimate for November and December	60.00	$230.43
Expenses of Committee on Ethics and Discipline:		
Clerical work (December 1944: paid, 1945)	$20.47	
Lunches	35.69	
Clerical to November	82.60	
Estimated for November and December	35.00	$173.76
Expenses of Committee on Medical Defense:		
Legal expenses ending June 30	$381.78	
Legal expenses ending November 15	200.00	
Estimate for November and December	300.00	
Miscellaneous legal work	100.00	$981.78
Expenses of Committee on Society Headquarters (estimated):		
Rent	$3,248.00	
Cleaning	234.00	
Electricity	231.00	
Telephone	138.00	
Clerical	300.00	
Miscellaneous	200.00	$4,351.00

Expenses of Committee on Publications:

Profit and loss account of *New England Journal of Medicine*:

	Actual 1945*	Estimated 1946
Revenue		
Advertising	$73,000.00	$80,000.00
Engraving	1,000.00	.....
Reprints	7,500.00	8,000.00
Subscriptions	62,000.00	65,000.00
Miscellaneous	1,500.00	1,500.00
	$145,000.00	$154,500.00
Expenses		
Publication of *Journal*	$75,000.00	$90,000.00
Publication of reprints	6,000.00	6,500.00
Office and other salaries	29,000.00	34,000.00
Commissions, fees, etc.	7,000.00	8,000.00
Office and sundry expense	7,500.00	10,000.00
	$124,500.00	$148,500.00
Profit	19,500.00	6,000.00
Appropriation	†88,000.00	5,000.00

Directory:		
Clerical	$165.98	
Printing	1,499.50	
Postage	28.38	1,693.86
Expenses of Committee on Industrial Health:		
Clerical	9.39	
Meetings	42.67	
Estimate for November and December:		
Meetings	70.00	
Clerical	5.00	$127.06
Expenses of Committee on Military Postgraduate Teaching:		
Luncheon and dinner meetings	$143.77	
Clerical	392.07	
Estimate for November and December	150.00	$685.84
Expenses of Committee on Postwar Loan Fund:		
Envelopes	$184.14	
Clerical	43.96	
Printing	51.94	
Addressing	20.00	
Mailing	35.00	
Interest on loans	200.00	
Meetings	44.81	$579.85
Expenses of Postwar Planning Committee and Subcommittees:		
Postwar Planning:		
Clerical	$381.65	
Printing, mimeography and postage	64.25	
Dinner and luncheon meetings	486.91	
Meeting with hospital trustees, chiefs of staff and executives, June 20	503.86	
Telephone	15.50	
Hospital Directory	3.00	$1,455.17
Subcommittees:		
Medical Economics	104.15	
Postgraduate Education	32.20	
Curriculum	59.65	
Medical Organization	32.78	
Bureau of Clinical Information (transferred to Subcommittee on Postgraduate Education, May, 1945)	2,399.15	$4,083.10
Estimates for November and December:		
Clerical	$100.00	
Postgraduate Education	1,500.00	
Bureau of Clinical Information	500.00	
Meetings	75.00	$2,175.00

*Based on ten months' operation.

†Not used.

APPENDIX NO. 3

Report of the Committee on Public Relations

The Committee on Public Relations of the Massachusetts Medical Society desires to transmit to the Council of the Massachusetts Medical Society the following items:

It is recommended by the Committee on Public Relations that a certain plan suggested by Dr. Quimby Gallupe be approved by the Council of the Massachusetts Medical Society. This plan is as follows:

For many years the Commonwealth of Massachusetts has registered to practice medicine a number of physicians who have been graduated from unrecognized medical schools. Henceforward, by legislative action, physicians with unapproved educational background no longer will be eligible for registration in Massachusetts. Such physicians who have been registered in the past, however, will continue to practice. They are the doctors of many families in the Commonwealth yet they may not be permitted to care for their patients in our hospitals. Such a situation may prevent patients from receiving as adequate medical care as they have the right to expect from the profession and it tends to encourage the flourishing of inferior hospitals. It is not for the public good. Therefore, the following proposal is presented:

Let the trustees and staff of each licensed community hospital in Massachusetts that wishes to do so, be encouraged to invite all registered doctors of medicine in its community to a meeting. At this meeting let the following plan be announced: Henceforward, all such registered physicians in the community are to be invited to attend the hospital's staff meetings, ward rounds, and clinicopathological conferences. The hospital's laboratory and x-ray facilities are to be made available to them. The opinions of the active and consulting staff members are to be made available for consultation. Such physicians are to be invited to send their patients to the hospital under the care of the hospital staff. Their professional behavior is at first to be watched carefully by staff members who may come in contact with them and after a reasonable preliminary period of observation the courtesy privileges of the hospital may be made available to them under some such conditions as the following:

At first, as members of the courtesy staff they will be privileged to care for their medical patients under staff guidance. They will not be permitted to do surgery or operative obstetrics until they can demonstrate that they have experienced satisfactory postgraduate training in these specialties or can prove, satisfactorily, their capabilities to the chiefs of these services. Their records will be carefully inspected. Their attendance at staff meetings and other conferences will be recorded. Their relations to their fellows and to their patients will be noted. Their full support of the community effort and their loyalty to the hospital will be expected. Eventually, if their work proves satisfactory, they may hope to attain full staff membership.

Such a plan, to operate effectively, requires support of the trustees and the staff of each community hospital wishing to engage in an educational endeavor of this character. These bodies must appreciate that if their communities are to reap benefits from the plan, both trustees and hospital staff must work to perfect its details. The plan should be approved by the American College of Surgeons and the American Medical Association. To succeed, it requires support by the Massachusetts Hospital Association and by the Massachusetts Medical Society.

The Committee on Public Relations recommends that the Council approve this plan and take appropriate measures toward its activation.

Report of Subcommittee on Tax-Supported Medical Care

Your committee has received a letter from the Honorable Philip J. Philbin, congressman from the Third Massachusetts District and member of the House Committee on Military Affairs. Herein is stated: "I am pleased to say that I believe that veterans ought to be able to receive treatment from doctors of their own choice and in hospitals of their own choice in their own communities as supplementary to their right to clinical and hospital care. I am looking forward to the statement of your committee on these matters and will gladly join with you in working for more constructive and more effective care and treatment of our beloved veterans."

The Council already has advocated free choice of physicians by veterans for their medical care. Your committee has studied this principle in greater detail. We reaffirm our belief that veterans can obtain most satisfactory and economical medical care by employing licensed physicians of their own choice and of their own communities in whom they have confidence. We believe that veterans requiring hospital care can best be cared for by hospitalization in licensed civilian hospitals of their own choice and particularly in licensed civilian hospitals in their own communities when such hospitals are available. We believe that the costs of home or office visits for veterans and their professional care in hospitals should be paid at the prevailing rates of each community for such services. We believe that the costs of hospitalization for veterans in local licensed civilian hospitals should be met by arrangements for this purpose between each of such said hospitals and the Veterans Administration. We believe that each district society should appoint a committee authorized to meet on call by the Veterans Bureau for the purpose of adjusting any disputes or difficulties that might arise under such a program.

Your committee has received a letter from Major General Paul R. Hawley, acting Surgeon General of the Veterans Administration of the United States of America, requesting that the Massachusetts Medical Society appoint a committee to confer with him about medical care of veterans. This was discussed by all members of the Committee on Public Relations. Dr. Ellison moved and Dr. Sullivan seconded the motion requesting that this committee be appointed immediately by Dr. Fitz because it was an emergency. This motion was carried unanimously. Dr. Fitz then appointed Dr. John J. Dumphy, Dr. Michael A. Tighe and Dr. Humphrey L. McCarthy to serve on such a committee.

The chairman and Dr. Hornor met with Mr. O'Hare, agent of the Board of Public Welfare for the City of Boston, to discuss ways in which the boards of public welfare, particularly that in Boston, could obtain help from the Massachusetts Medical Society. It was brought out that all recipients of old-age assistance are entitled to free choice of physicians and it is incumbent on the local boards of public welfare to see that this practice is followed and that the physicians are properly paid. Our conference with Mr. O'Hare and a later conference with the Commissioner of Public Welfare for the Commonwealth of Massachusetts, Mr. Tomkins, causes us to recommend that each district medical society appoint a committee to act in an advisory capacity with their local boards of public welfare in attaining the ends above mentioned.

The Committee on Public Relations recommends that this report be accepted and the recommendations contained in it be adopted, and that as it relates to the Veterans Administration, a copy of it be sent to the Honorable Philip J. Philbin.

The Committee on Public Relations recommends to the Council that if, at any time, the Massachusetts Medical Society has recommended that the prevailing rate of fees be reduced for the care of tax-supported medical cases that this action be rescinded.

Albert A. Hornor, *Secretary*

APPENDIX NO. 4

Report of the Committee on Legislation

Since the last meeting of the Council your committee has been actively engaged through subcommittees in co-operation with subcommittees of the Postwar Planning Committee and of the Committee on Public Relations in drawing an appropriate report on national legislation to be presented to the Council. This report was acted on at the special meeting of the Council held on January 9, 1946.

Your committee has been studying methods for bringing to the district societies a sense of the importance of medical citizenship and realization that only by the active interest on the part of individual doctors can their knowledge and views receive as much consideration as they deserve by any legislative body. It appears difficult to interest the busy practitioner in such matters; yet to accomplish this is extremely important in times when legislation pertaining to public health is becoming increasingly popular.

Your committee is in the process of studying and digesting as quickly as possible the various bills pertaining to public health and the practice of medicine which will be introduced in the next session of the Great and General Court of Massachusetts.

Dr. Humphrey L. McCarthy, on December 12, 1945, submitted his resignation as chairman of the committee. His resignation was accepted with regret by his fellow members of the committee and by the President. He proved imaginative, energetic and hard working. Fortunately he retains membership on the committee so that his services to the Society are not lost. Sufficient time has not elapsed for a new chairman to be elected, a method of selecting the chairman used by this committee for many years in accordance with *Robert's Rules of Order*. This authority states that any standing committee, by a majority of its number, usually elects a chairman.

This report is submitted as an informational report.

REGINALD FITZ, *Acting Chairman*

APPENDIX NO. 5

REPORT OF THE COMMITTEE ON CANCER

A meeting of the Committee on Cancer was held September 19, 1945. Improvement in diagnostic procedures and methods of educating the laity in the disease, cancer, throughout the Commonwealth, were discussed and would appear to be of interest to the Council.

Vaginal smears for the diagnosis of uterine cancer are now a routine procedure in many of the cancer clinics in all female patients. It is expected that this method of diagnosis will be adopted by all the clinics in the near future.

Cancer symposiums have been sponsored by the cancer clinics in several cities. These were conducted both in the afternoon and evening to afford an opportunity for more to attend. Speakers of recognized ability in cancer therapy and from the various specialties in practice have addressed these gatherings. The large attendance at these symposiums has been very surprising and the requests from the laity for more frequent educational meetings of this type have been most gratifying.

Instruction in cancer in the public schools of Massachusetts in many communities is now a part of the regular curriculum. The value of such instruction both to the school children and to their parents with regard to early recognition and early treatment of the disease is inestimable.

Lynn and Malden have quite elaborate programs of instruction in cancer in the schools. It is hoped that cancer statistics of these communities will be compiled in the future to evaluate the results as compared with other communities with less extensive programs. Instruction in cancer is now a part of the school curriculum in many communities in Montana, North Dakota, Minnesota, Wisconsin, Iowa, Michigan, Pennsylvania, Alabama, Ohio and New York. In some states an outline for school programs is furnished the schools by the state medical society.

The Committee on Cancer is of the opinion that instruction in the disease, cancer, in the public schools is a valuable method of publicity and indorses in principle making such instruction a part of the school curriculum. The method of instruction, we believe, should be determined by the school authorities of the communities.

ERNEST M. DALAND
THOMAS J. ANGLEM
ALLEN G. RICE
CHANNING C. SIMMONS
GEORGE A. MOORE, *Chairman*

APPENDIX NO. 6

REPORT OF THE COMMITTEE ON MEDICAL DEFENSE

I have your communication from the American Policyholders' Insurance Company regarding writing an over-all group malpractice liability insurance policy for members of the Society. (See below.)

I have sent this letter to the two members of the committee available. Dr. Edwin D. Gardner, of New Bedford, sees no reason why this company should not be seriously considered but does not state definitely that he favors group malpractice-insurance protection for the entire Socie written by one company. The other member, Dr. Willia R. Morrison, is very distinctly opposed to the plan, sayi that he believes our present system of free choice with p tection given to the members not insured by our own a torneys is a satisfactory one.

When Dr. Bagnall was president of the Society, he su gested that the plan of protection for medical defense shou be studied again and considered on a different basis fr our present one. At this time, Dr. Guy Richardson, Haverhill, had made a considerable study of malpracti insurance as it has affected men in that community pa ticularly, and believed that a better system than the o we now use might be worked out.

I mention all of this because I think probably the ti has come when the entire problem should be reviewed. is perfectly true that the two insurance companies n writing most of the malpractice insurance in this sta although their rates are somewhat different, do an equa good job. I would suppose that the American Policyholde Insurance Company would like the entire business inste of simply being allowed to write the insurance as the oth companies do. It will be remembered that some years a the company represented by Mr. George Crosbie, which no writes a great deal of the insurance, wanted to have co plete control over the malpractice defense of the Socie and this was not approved by the Council.

The argument in favor of one insurance company ov another is their financial rating, or their ability to pay th obligations in the face of a bad financial period.

I have long felt that the Massachusetts Medical Socie might undertake its own insurance plan but I can eas see that this would involve too much difficulty in ma ways. It would be comparable to starting the Blue Shie or something of that nature, which, although a great succe required a tremendous amount of work and continu endeavor on the part of many members of the Socie

I think this question might be discussed at the next me ing of the Executive Committee to see whether or not t time has come when the problem of malpractice insuran should be reviewed. I would like very much to be relieve from any responsibility in this matter since I seem to ha too many irons in the fire. I would be glad to give my advi to any committee appointed, to the best of my ability, b would prefer not to have to make the study myself.

ARTHUR W. ALLEN, *Chairm*

* * *

AMERICAN POLICYHOLDERS' INSURANCE COMPANY
Home Office: Boston, Massachusetts

November 17, 19

Massachusetts Medical Society
8 Fenway
Boston, Massachusetts

Attention: *Secretary*

Dear Sir:

The American Policyholders' Insurance Company, a American stock insurance company, is desirous of establis ing for the Massachusetts Medical Society a group ma practice liability insurance policy for the members of you society who would want to subscribe to it. We would issu a master policy to the Society and individual policies t the members subscribing to it for whatever limits of liabilit they would desire; of course, only members of the Socie in good standing would be eligible under this group arrange ment.

We are in a position to offer this protection to your mem bers at an exceptionally low cost. The protection would b all-inclusive and would insure the members of your society for any and all contingencies upon which a claim or suit fo malpractice could be based.

If it is possible to discuss this matter in detail with th Executive Committee of your society or with that committe whose function it is to handle matters of this kind for you Society, the writer would be pleased to discuss the matte with them personally at your offices at a time convenien to you, giving the writer sufficient notice so that tran portation arrangements might be made.

Very truly yours,

JOHN A. NOLA
Malpractice Divisio

APPENDIX NO. 7

Report of the Committee on Public Health

The Committee on Public Health has had two meetings, and a subcommittee one meeting. Dr. Bagnall of the subcommittee will make a supplementary report on his study concerning legal restrictions of the sale of drugs dangerous to the public health.

President Fitz referred to our committee a letter from the American Epileptic League, Incorporated, asking him to give them a list of physicians in rural areas who are competent to care for epileptics — an increased number of such cases are expected as casualties from our armed forces.

After a discussion of the subject in which we had the advice of Dr. William Lennox, it was voted to recommend to the Council that we circularize the profession with a letter concerning the importance of the knowledge of recent advances in the treatment of epilepsy and offering to forward such material as is available on the subject to those interested. Material for this letter is attached. (See below.)

President Fitz also referred to us a communication from a group of school executives, asking for a committee from the Society to formulate plans for the improvement of medical services to the schools.

After discussion of the problem during which we were joined by Dr. Florence McKay, it was voted to appoint a subcommittee to study the deficiencies noted and recommend a remedy.

We hope these recommendations will be ready to be presented to the Council in May.

This report has one informational study by Dr. Bagnall — a report of progress on a study to improve the medical services to the schools and a recommendation that the Council approve of the committee's sending a letter to all the physicians in Massachusetts offering to send literature on the latest advances in the treatment of epilepsy to those who are interested.

Roy J. Ward, *Chairman*

* * *

Dear Doctor:

The Committee on Public Health of the Massachusetts Medical Society is commissioned by the Society "to foster the knowledge of the prevention and treatment of disease by any appropriate measures." Your committee believes that epilepsy is a condition in which definite advances have been made in recent years, of which physicians throughout the Commonwealth might be better informed. These advances are of three sorts: first, use of the electroencephalograph for diagnosis and as a guide in treatment; second, the newer drugs, phenytoin (dilantin) sodium for grand mal and psychomotor seizures, and trimethyloxazolidine (tridione) for the petit mal triad; and third, social aids, looking toward better opportunities for education and employment.

Also, looking toward the future, there are plans for the establishment in Boston of a diagnostic-training-research center, which might aid doctors in the better handling of their epileptic patients.

The American Epilepsy League (a national lay organization, which has a substantial group of medical advisors and headquarters at 50 State Street, Boston) has offered to supply doctors of the Commonwealth who are interested with pertinent information on various aspects of epilepsy. Some articles are reprints from medical journals; others are written for popular consumption.

A list of the items that are at present available is enclosed. Please check those which you would like for yourself or for patients and return in the enclosed envelope. Material will be sent from the office of the League. Even if you are not interested, or see no epileptics, will you assist in the collection of data by answering the questions at the end. Any comments or questions will be welcome.

Sincerely yours,

Committee on Public Health
Ernest M. Morris
George L. Steele
Conrad Wesselhoeft
Roy J. Ward
Elmer S. Bagnall

Material Available on the Subject of Epilepsy

1. "The Treatment of Epilepsy." Medical Advisory Board of League.
2. "Marriage and Children for Epileptics." *Journal of Human Fertility.*
3. "Petit Mal, Myoclonic and Akinetic Epilepsies and Their Treatment with Tridione." *Journal of American Medical Association.*
4. "The Ghost is Out of the Closet." Yahraes. Printed by Public Affairs Committee, New York.
5. "Woman without Fear." *Woman's Home Companion.*
6. "Employment of Epileptics." *Journal of Industrial Medicine.*
7. "The Epileptic: Who he is, what he can be." *Journal of Rehabilitation.*
8. "Epilepsy: the hopeful disorder." *Parents Magazine.*
9. "The Nurse and Her Epileptic Patient." *American Journal of Nursing.*

A single copy of each of the above will be sent without charge and additional copies at 10 cents each, with reduction for larger numbers.

The following can be purchased through the League:

10. *Science and Seizures, New Light on Epilepsy and Migraine.* W. G. Lennox. Harper and Bros. $2.00.
11. *Convulsive Seizures: A manual for patients, their families and friends.* Tracy Putnam. Lippincott. $2.00.
12. *Epilepsia.* A journal printed annually which contains an abstract of the world's literature on the subject of epilepsy. $1.00 a year.
13. *The Falling Sickness: A history of epilepsy.* Oswei Temkin. Johns Hopkins Press, 1945. $4.00.

Type of practice — general — medicine — surgery — specialty.
Approximate number of epileptics seen in past twelve months: in office..., in public clinic....
Comments:

APPENDIX NO. 8

Report of the Committee on Postwar Planning

In accordance with the action of the Council on February 2, 1944, the committee recommends that the Council of the Massachusetts Medical Society suggest to the Committee on Education and Labor of the United States Senate and to other appropriate authorities, that the Federal Government establish a department of health and welfare with a secretary in the President's Cabinet under whom would be coordinated all important health and welfare programs exclusive of those of the Army and Navy, and that the Division of Health should be under the direction of a physician.

Consultations with a representative of the Board of Collegiate Authority resulted in a better understanding of the approval of hospitals to provide training for returned veterans. Various meetings have been held with hospital representatives consisting of superintendents and staff members, to consider increasing the opportunities for returning veterans in Massachusetts hospitals. Seventy-six hospitals have listed their needs for interns and residents at 8 Fenway.

The Subcommittee on Hospitals further reported on the conversations that had been held with Dr. Johnson, secretary of the American Medical Association's Council on Medical Education and Hospitals on how approval for hospitals for internships and residencies could be expedited. The question was asked how far the Society could assist the Council on Medical Education and Hospitals. Also, Dr. Westmoreland reported at the Beth Israel Hospital in Boston on further details relating to approval of hospitals. He reported that the Council on Medical Education and Hospitals of the American Medical Association would appreciate such help under qualified leadership. Dr. Fitz, a member of this Council, confirmed that the Council on Medical Education and Hospitals is practically overwhelmed by requests from hospitals for approval all over the United States. Also, he believes that this council of the American Medical Association would appreciate the assistance of a committee from the Massachusetts Medical Society that would help expedite probationary approval of Massachusetts hospitals.

The committee recommends that in view of the postwar emergency, the Council of the Massachusetts Medical Society approve the principle of active co-operation with the Committee on Medical Education and Hospitals of the American Medical Association, and that the Massachusetts Medical Society, through an appropriate committee, offer its services to the Council on Medical Education and Hospitals, in the appraisal for provisional approval of hospitals. It is further recommended that a committee of five be appointed by the president of the Society to co-operate with the Council on Medical Education and Hospitals with this objective.

The work of the Subcommittee on Postgraduate Medical Education, including direction of the Bureau of Clinical Information and the conduct of postgraduate courses, has steadily increased. Up to December 12, two hundred fifty-two service doctors have registered at the Bureau of Clinical Information. During the last three months of this year postgraduate exercises have been held in sixteen towns and plans for 1946 provide for twenty-four exercises in each of the six circuits. Actually these twenty-four exercises will include a two-day session during which a team of three or four instructors will teach in three to five different places. In addition, the committee has established tentative programs of bi-weekly postgraduate exercises in Boston. Certain localities in the State have asked for further and more frequently conducted exercises.

The committee has submitted the following budget to the Finance Committee for 1946.

Salaries and expenses of postgraduate instruction for twenty-four sessions	$6,000
Clerical and printing	1,000
Bureau of Clinical Information (Salary — Miss Gaston, etc.)	2,800
Meetings	700
Total expenses	$10,500

The demand for postgraduate instruction will be greater in 1946 than ever before. The success of the postgraduate assemblies held prior to World War II has led to consideration of their renewal. The Committee recommends that the Council approve the initiation of plans for a postgraduate assembly in 1946.

HOWARD F. ROOT, *Chairman*
LEROY E. PARKINS, *Secretary*

APPENDIX NO. 9

LETTER FROM DR. JAMES M. BATY

February 6, 1946

To the President, Officers and
Members of the Council of the
Massachusetts Medical Society

Gentlemen:

The American Academy of Pediatrics at its annual meeting in St. Louis in November, 1944, approved a plan to make a survey of the medical needs of the children of the United States and the facilities available to meet these needs.

The organizational work for this survey has been completed. Dr. John Hubbard, of Boston, has accepted the full-time position of director of this work and now has an office at the Children's Hospital in Washington, D. C. The Children's Bureau and the United States Public Health Service are co-operating in making this survey and have assigned full-time workers to assist Dr. Hubbard.

North Carolina was selected as the pilot state for the survey. The work was begun in North Carolina in November, 1945, and has been completed. The data obtained in this state have not been analyzed completely as yet. It is now planned to begin the survey in the individual states throughout the country, it is hoped within six weeks to two months.

The survey is entirely fact-finding in nature and will attempt to determine the nature as well as the amount of health services being rendered to children by physicians, hospitals, clinics, social agencies and other organizations. An executive secretary will be appointed in each state to do the work in co-operation with Dr. Hubbard and the members of the American Academy of Pediatrics and with the assistance of local organizations that are willing to participate.

It is hoped that the results of this survey will be of value to the medical profession in general and to the American Academy of Pediatrics in particular in the formation of sound opinions and constructive criticisms relative to legislation aimed to improve the quality and distribution of medical care.

Respectfully submitted,

JAMES MARVIN BATY, M.D.
State Chairman for Massachusetts
American Academy of Pediatrics

APPENDIX NO. 10

SUPPLEMENT TO REPORT OF POSTWAR PLANNING COMMITTEE

A review of the activities of the Bureau of Clinical Information of the Massachusetts Medical Society for the year ending December 1, 1945, shows that the *Bulletin* was distributed to various groups including hospitals, private physicians, medical officers of the Army and Navy and Veteran's Bureau, social-service departments, medical schools and so forth, to a total of 3489. A further analysis shows that the *Bulletin*, while mainly distributed in Massachusetts, was also sent by request to fifteen other states and four foreign countries and Canada. Requests for the *Bulletin* have been received from such agencies as the Massachusetts Department of Education, libraries of medical schools and Army, Navy and veterans' hospitals.

Since August, 1945, there have been 204 requests for data on refresher courses, residencies or locations. During this period and especially in the last several months, the office has been visited in increasing numbers by returning medical officers who wish to get information and to discuss their personal problems. In conjunction with the above activities of the Bureau, the secretary of the Bureau keeps the Bureau of Information of the American Medical Association informed as to changes in address and status of all members of the American Medical Association registered from Massachusetts. This is accomplished by a monthly report. All returning veterans are requested to fill out a form-sheet giving the data in regard to their military service, present address and other pertinent facts, which is transmitted to the Directory Department of the American Medical Association. Another activity of the Bureau is advice and help in filling out forms in regard to eligibility under the G. I. Bill of Rights and related information of the Veterans Administration. Many requests have been received in regard to the Blue Cross and Blue Shield.

The requests that have come to the Bureau are of many types and varied in their scope; for example, a wife wanted to know where she could obtain extra red points for her anemic husband, there have been requests for lists of convalescent homes, a "good doctor for marriage problems" and a "good doctor for diabetes." A physician called to know the name of a film, and where it could be obtained, that was given at one of the meetings of the Society. There have been requests for information about openings for doctors' secretaries and requests from visiting doctors for information about operations and clinics. Often physicians, while in Boston, keep in touch with the Bureau for help in planning their time so that their stay is of the greatest value. Two physicians from Montreal come to Boston regularly for refresher work and plan their time according to the schedule of the *Bulletin*. A doctor from Calgary, Alberta, comes several times during the year and uses the *Bulletin* for his guide and gets in touch with the Bureau for extra data. Two real-estate firms have been in touch with the Bureau, and as a consequence one service man found a good office location and home, which was formerly occupied by a doctor. A second home is now in the process of being bought by a serviceman. The servicemen express their gratitude for the *Bulletin*, as it helps them plan their refresher work. They say they could not get along without it. These are some of the ways and means in which the Bureau has been helpful to the servicemen.

An extremely important function of the Bureau, and one that will increase in importance, is the co-ordination of information concerning refresher courses and opportunities for attendance at clinics of the various medical schools, hospitals and private clinics. To promote this, conferences have been held and requests made for submission to the Bureau of Information of such data so that it is available when requests are made by individuals. A plan is under consideration for admission to certain clinics by card in order to prevent overcrowding and interference with small groups. We have in contemplation a plan whereby the hospitals and clinics may submit their clinical facilities under classified headings. Thus an applicant to the Bureau could be told at what hospital and at what time various types of clinics are held, although it must be kept in mind that such clinics are not always open to all physicians.

The above summary, plus a perusal of the detailed report below, shows that the Bureau of Clinical Information of the Massachusetts Medical Society has justified the wisdom of its sponsors. Its activities have grown in diversity each month, as has the quantity of information requested and dispensed. It is a real satisfaction to read the letters of gratitude that have been received from those who have consulted the Bureau. The demand for the Bureau's service has become increasingly widespread; this first year has naturally been one of an experimental nature, but it appears to be an activity that has well justified the effort and expense involved.

This report could not be concluded without a word of commendation to Miss Mary D. Gaston, secretary of the Bureau, who has made every physician and layman who has called feel that there is a personal interest in each and that time and effort expended in his personal problem is the function of the Bureau.

The activities of the Bureau are a part of the functions of the Subcommittee on Postgraduate Medical Education. Dr. Richard Ohler, chairman of the committee, has made excellent progress in organizing the respective areas of the Commonwealth for clinical postgraduate instruction as well as the lecture course for the Metropolitan Boston area, as published in the *Journal*. The Clinical Information Bureau activities are under the direction of Dr. Charles J. Kickham, a member of the Committee on Postgraduate Medical Education. Dr. Kickham has prepared the above information about the Information Bureau.

HOWARD F. ROOT, M.D., *Chairman*
LEROY E. PARKINS, M.D., *Secretary*
Postwar Planning Committee

Total Number of Copies of the *Bulletin* Distributed from November, 1944, to December, 1945

Physicians	1416
Hospitals	945
Army	548
Navy	283
Miscellaneous	209
Social service	36
Job counseling for veterans	52
Total	3489

The following have been included: Department of Education, State House; Lovell Hospital, Fort Devens; Camp Edwards; Chelsea Naval Hospital; Hingham Shipyard Dispensary; Boston Navy Yard Dispensary; Army Dispensary, First Army Command; Navy Unit at Vanderbilt Hall; Harvard Medical School Library; Boston University School of Medicine Library; Boston City Hospital Library; special departments at Boston City Hospital; and Bureau of Information in New York City.

Source of Physicians' Requests

Alberta	1
Baltimore	1
Boston	74
California	4
Canada	5
Chile	1
Connecticut	7
Cuba	1
Illinois	8
Iowa	3
Kentucky	1
Massachusetts	77
Michigan	4
Montreal	4
New York City	2
New York State	7
Ohio	1
Pennsylvania	3
Rhode Island	2
St. Louis	1
South Africa	2
Utah	1
Washington State	1
West Virginia	3
Total	214

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Weekly Clinicopathological Exercises

FOUNDED BY RICHARD C. CABOT

TRACY B. MALLORY, M.D., *Editor*

BENJAMIN CASTLEMAN, M.D., *Associate Editor*

EDITH E. PARRIS, *Assistant Editor*

CASE 32181

PRESENTATION OF CASE

A forty-eight-year-old machinery salesman entered the hospital after suddenly collapsing on the street.

The patient had been known to be hypertensive for fifteen years, but no record of his blood pressure was available. For four or five years before entry he had been on a reducing diet and had dropped from a maximum of 250 pounds to about 160 pounds. One month before admission he noted for the first time mild dyspnea on moderate exertion. At about the same time he developed a nonproductive cough, which was not relieved by sitting or standing. There was no previous history of headaches, vertigo, tinnitus, orthopnea, precordial distress or ankle edema. On the day of admission he felt well until evening when, while walking against a cold wind, he was suddenly seized with a tight feeling across the anterior chest, just as if his vest were too tight. At the same time he became increasingly weak, and finally his knees buckled under him and he collapsed. His sister brought him to the hospital in a taxicab.

Physical examination revealed a pale, emaciated, anxious, somewhat dyspneic man appearing both acutely and chronically ill. He complained of feeling hot and of having a dry mouth and a tight feeling in the chest. The skin was generally warm and dry, but the hands were cool and moist. When sitting up, the neck veins were distended and pulsating. There were moist, crepitant rales over the bases of both lungs. The left cardiac border was percussed 14 cm. to the left of the midsternal line. The sounds were regular. A Grade II systolic murmur was heard at the apex. The liver was thought to be enlarged. There was moderate pitting edema over the ankles. A right inguinal hernia enlarged to the size of a grapefruit on coughing. The fundi showed flame-shaped hemorrhages and moderate arteriosclerosis with arteriovenous nicking.

The temperature was 100.4°F., the pulse 130, and the respirations 34. The blood pressure was 230 systolic, 150 diastolic.

Examination of the blood showed a hemoglobin of 15 gm. The white-cell count was 13,000, with 84 per cent neutrophils. The nonprotein nitroge was 52 mg. per 100 cc., the serum protein 5.9 gm and the cholesterol 203 mg. The urine gave a ++ test for albumin; the sediment contained many hyaline casts. The specific gravity of two specimens was recorded as 1.016 and 1.022, respectively. The vital capacity was 1000 cc.

An x-ray film of the chest showed a cardiac shadow enlarged in all diameters. The lung roots and pulmonary markings were prominent. The costophrenic angles were obliterated by fluid. An electrocardiogram showed sinus tachycardia, at a rate of 150, a normal axis and a PR interval of 0.12 second. T_1 was inverted, T_2 and T_3 were low and upright, ST was elevated, and the T wave was upright in Leads CF_2 and CF_4, with slight inversion in Lead CF_5.

The patient was given morphine, digitalis, Mercupurin and ammonium chloride, but this resulted in no diuresis or a lowering of the pulse or respiratory rate. He developed increasing respiratory embarrassment, cyanosis and peripheral edema, and his general status persistently disintegrated.

On the fourth hospital day the heart sounds remained good. The blood pressure was 110 systolic, 90 diastolic, with no variation in respiration. The scleras appeared slightly jaundiced, but a blood specimen taken on the following day showed a van den Bergh of only 1.4 mg. direct and 1.9 mg. total.

On the fifth hospital day, the respirations became Cheyne–Stokes in character and the patient fell into a stupor. He was placed on continuous intranasal oxygen, but in his irrational state he succeeded several times in removing the nasal catheter and climbing out of bed.

On the sixth hospital day respirations gradually ceased.

DIFFERENTIAL DIAGNOSIS

DR. EDWARD F. BLAND: We are concerned with a man in the middle-age group with severe hypertension of long standing. There had occurred a significant decrease in his cardiac reserve for a month and then, without warning, he collapsed on the street, with a feeling of tightness in the chest, which seems a little more than just the discomfort from respiratory distress. Shortly after admission the patient was described as being in considerable distress. He had evidence in his peripheral circulation of venous stasis (distended neck veins), and subsequently the x-ray films showed signs of congestion in the lungs, as well as a big heart. There are one or two things at this point that we should like to know. Nothing is said about a gallop rhythm. Such should have been present, and perhaps a pulsus alternans. We should also like to know about the pulmonic second sound, which is usually accentuated with this degree of pulmonary congestion. He was obviously in a critical condition.

Of the laboratory aids we expect most help from the electrocardiograms. The first is as described in the record, but instead of finding evidence of left-axis deviation and T wave changes, such as one would expect with a large hypertensive heart and cardiac failure, no axis deviation is recorded and the T waves are low, with only a little elevation of the ST intervals in the precordial leads. There was a subsequent electrocardiogram, which is not mentioned in the abstract. It was taken on the next day and is essentially the same as the previous one, with possibly a little tendency to right-axis deviation, which is even more bothersome.

May we see the x-ray films? Dr. Lingley, did this patient have an obviously enlarged heart, as is stated in the record?

DR. JAMES R. LINGLEY: I have nothing to add to the x-ray report in the record. The heart shadow is greatly increased in size, but there is characteristic configuration. There is marked enlargement of all the pulmonary vessels on both sides, as well as hazy density in the medial portion of the lung fields, which is consistent with pulmonary edema. There is also fluid at both bases, more marked on the left than on the right.

DR. BLAND: You do not see any notching of the ribs?

DR. LINGLEY: No.

DR. BLAND: No evidence of pulmonary infarction?

DR. LINGLEY: No.

DR. BLAND: These films support the physical findings of heart failure of both the right and left sides. Does this suggest to you a rheumatic heart?

DR. LINGLEY: No; the shape of the heart does not suggest rheumatic heart disease.

DR. BLAND: The appearance of the electrocardiograms is disturbing and makes one wonder if rheumatic heart disease complicated the hypertension. If so, the heart should have been fibrillating, but it was not. I believe that we can discard that possibility. Do you see any calcification in the valves?

DR. LINGLEY: No.

DR. BLAND: So far as the remaining laboratory findings are concerned, the patient had a mild leukocytosis and a slight fever, but both might have been due to heart failure. Of the renal studies, the specific gravity should be noted. The specific gravity is sometimes helpful when one is considering the possibility of significant renal impairment in the presence of heart failure. The urine is usually concentrated in cases of heart failure and congested kidneys. If it is low, one is suspicious of considerable renal disease. In this case, the specific gravity is not suggestive of significant renal impairment. The cholesterol was normal. I suppose that it was determined in an attempt to appraise the renal function. There is one interesting laboratory finding, namely, the slightly elevated van den Bergh reaction. Whenever we see a patient with the signs of heart failure who later develops jaundice, we begin to think about pulmonary infarction. On the other hand it occurs occasionally after a large myocardial infarct.

The subsequent course was unsatisfactory, in that the patient did not respond to the measures that usually relieve congestive failure unless some very serious underlying process is present. Such must have existed here, since he went progressively downhill, with a coincident sharp drop in blood pressure.

Was myocardial infarction responsible for his progressive unfavorable course? The electrocardiogram is not helpful and actually a little disappointing. On the other hand, when we add up the whole course of events, including the drop in blood pressure, the failure to respond to treatment and the seriousness of the underlying heart disease, I favor as a first choice a myocardial infarct, in spite of the absence of much pain. The second choice, which seems to me a little less likely, is that he had pulmonary infarcts. If present, I think that they were not primarily the cause of his fatal disease.

On the other hand, was this simply acute dilatation of a seriously weakened heart? The heart may dilate because of acute myocarditis from a variety of causes, — notably, rheumatic fever, diphtheria and acute nephritis, — but we have no reason to suspect such in this patient.

Did he have chronic vascular nephritis? The evidence pointing to the kidneys is not particularly convincing one way or the other. Certainly the patient had long-standing hypertensive vascular disease and, hence, probably an element of vascular nephritis. Whether the latter was sufficient to prevent his response to the measures that are usually satisfactory is difficult to say.

In conclusion, as a first choice I prefer myocardial infarction as the precipitating cause of this patient's final illness.

May I ask Dr. Sprague his opinion of these two electrocardiograms, both of which are essentially the same? They are surprisingly negative for a man who had had hypertension for fifteen years and eventually died of heart failure.

DR. HOWARD B. SPRAGUE: There seems to be some inversion in the T wave, the second one. If you want anything more to help in the diagnosis of myocardial infarction, I do not see it.

DR. BLAND: Would you object seriously to that diagnosis?

DR. SPRAGUE: I do not see how one can object. The statement that the pulse pressure did not vary with respiration makes one wonder if they were thinking about pericardial involvement. There was no friction rub. It might have been some unusual thing, such as a ruptured coronary artery with hemopericardium.

DR. BLAND: It seems to me that one bit of evidence against a significant amount of cardiac tamponade,

if you want to go that far, is that there was a lot of blood in the pulmonary circuit according to the x-ray films. Therefore it would not appear that there was a process sufficiently constricting to have prevented the flow of blood into the heart.

DR. SPRAGUE: There is nothing in the electrocardiogram to support a diagnosis of pericardial irritation.

DR. TRACY B. MALLORY: Dr. Lerman, will you tell us the impression on the wards?

DR. JACOB LERMAN: From the story we thought that this patient had had an acute coronary occlusion, which precipitated congestive failure. The thing that bothered us was his failure to respond to what we thought was adequate therapy. He continued to go downhill, coughing considerably, and developed marked Cheyne–Stokes respiration. There was no explanation for it except to assume that he had had a large coronary occlusion with cardiac damage.

CLINICAL DIAGNOSES

Hypertensive heart disease.
Myocardial infarction.

DR. BLAND'S DIAGNOSES

Cardiac infarction.
Hypertensive heart disease.
Cardiac failure.

ANATOMICAL DIAGNOSES

Pericarditis, acute, fibrinous.
Cardiac hypertrophy, hypertensive type.
Nephrosclerosis, moderate.
Peptic ulceration of stomach and duodenum, acute.
Hydrothorax, bilateral.
Arteriosclerosis, aortic and coronary, slight.
Chronic passive congestion.
Hypertrophic arthritis of spine.

PATHOLOGICAL DISCUSSION

DR. MALLORY: The autopsy showed several things, and I do not know how to put them together. The unexpected finding was an acute pericarditis. There was also considerable hypertrophy of the heart, the weight being 600 gm., but the heart was not particularly dilated. There was diffuse congestion of the lungs, and in places some evidence of old organizing bronchopneumonia. There was quite severe arteriolar sclerosis in the kidneys, such as one would expect with long-standing hypertension. The questions are: Why did he have pericarditis? What did the pericarditis have to do with the symptoms?

It was a fibrinous pericarditis, rather than the purulent one that accompanies bacterial infection. There are several types of nonbacterial pericarditis. It is a frequent finding with an infarct of the heart; but there was no infarct of the heart here. Fibrinous pericarditis is also quite frequent in patients dying in uremia, but we have little evidence that th patient died with uremia, since the highest no protein nitrogen was only 52 mg. per 100 cc. Th kidneys showed vascular involvement but not th extensive atrophy of the parenchyma that on would expect in a patient who had died of rena insufficiency.

There were some other incidental findings tha are peculiar, and again I cannot explain them There were multiple acute ulcers in the stomach and duodenum. Acute gastroenteritis is ofte observed in the uremic state, and it can also occu in cases of simple cardiac failure. This, howeve looked more like peptic ulceration than the usua superficial changes that one sees in either uremi or cardiac failure. I cannot tie the ulcers into th picture. We recorded the primary cause of deat as acute pericarditis, but I have no idea of its origi or etiology.

DR. BLAND: What about the myocardium? Wa there any evidence of myocarditis?

DR. MALLORY: We could not find a thing wron with it, except hypertrophy.

DR. ALLEN G. BRAILEY: Would tuberculou pericarditis do it?

DR. MALLORY: There was no evidence of tubercu losis.

DR. JAMES B. TOWNSEND: Was there any flui in the pericardium?

DR. MALLORY: Only a moderate amount, bu quite a lot of fibrin. It looked at autopsy like th pericarditis that one sees with uremia.

DR. BLAND: Was there cardiac tamponade?

DR. MALLORY: I do not believe that there could have been.

CASE 32182

PRESENTATION OF CASE

First admission. A sixty-three-year-old Italian woman entered the hospital complaining of dyspnea, nausea and vomiting.

The patient had been well until four months before admission, when she had a sudden attack of dyspnea, chills, a fever of 103°F. and pain in the right posterior chest. The pain was constant, not related to breathing and lasted one week. After two more weeks she felt well enough to resume her work as a chocolate dipper but she still complained of some weakness and exertional dyspnea. One week before admission, while stooping over a kettle of chocolate, she suddenly felt weak and dizzy, as if she were going to faint. She sat down in a chair and felt better, but fifteen minutes later she became nauseated and vomited her breakfast. She was then brought to the Emergency Ward, where she appeared to be in no acute distress but did complain of a vague feeling of fullness and burning in the epigastrium, with radiation to the right chest and "up into the head."

In the past her health had always been good except for occasional bouts of acid eructations.

Physical examination revealed an elderly woman in no acute distress. The lungs were clear, and the heart was not enlarged. The pulmonic second sound was slightly greater than the aortic. There was slight tenderness to deep palpation in the epigastrium.

The temperature was 99°F., the pulse 124, and the respirations 26. The blood pressure was 170 systolic, 92 diastolic.

Examination of the urine showed a +++ test for albumin. The blood showed a hemoglobin of 90 per cent and a white-cell count of 13,500. The nonprotein nitrogen was 23 mg. per 100 cc. An electrocardiogram was read as normal except for sinus tachycardia. An x-ray film of the chest revealed linear areas of increased density in the posterior portion of the right lower lobe and general enlargement of the heart. A gastrointestinal series was negative.

On the following morning the patient felt entirely well and was discharged.

Final admission (five days later). At home she continued to vomit almost everything consumed. She felt constantly nauseated and had frequent acid eructations, with the same type of epigastric burning radiating to the right chest and neck. She had also experienced some dyspnea even at rest, but had no orthopnea, ankle swelling, cough, fever or leg pain.

On physical examination the patient appeared acutely ill. She was breathing rapidly but was not orthopneic. The skin was warm and moist, and the lips were slightly cyanotic. The neck veins were distended and pulsating. The heart, lungs and abdomen were the same as on the previous examination. There was questionable bilateral calf tenderness, but Homans's sign was negative.

The temperature was 98°F., the pulse 85, and the respirations 40. The blood pressure was 100 systolic, 70 diastolic.

The blood and urinary findings were essentially similar to the previous results. A repeat electrocardiogram showed normal rhythm, at a rate of 105, with a tendency to right-axis deviation. The PR interval was 0.14 second. T_1 was upright, T_2 and T_3 inverted, Q_3 prominent, TCF_3 and TCF_4 inverted except for a few upright TCF_4 complexes, and TCF_5 upright.

The patient's condition grew steadily worse. On the second hospital day the temperature spiked to 103°F. and remained elevated. On the third day a definite gallop rhythm was heard at the base of the heart. On the fourth hospital day a definite swelling of the right calf was found. She became more cyanotic, dyspneic and apprehensive. Femoral-vein ligation was considered, but the patient expired before preparations could be completed.

Differential Diagnosis

Dr. Sylvester McGinn: Perhaps we should start by seeing the x-ray films.

Dr. James R. Lingley: There are two sets of films, taken nine days apart. At the first examination the heart shadow is slightly enlarged. There are some bands of density in the right midlung field that have the appearance of old scars, which could have been due to infarcts in the past or to a scarring process of any nature. The second set shows an increase of 1 cm. in the transverse diameter of the heart. The diaphragm is higher in position, however, and this can explain the slight increase in the transverse diameter of the heart. The left lung field is clear. The right shows an area of increased density in the region of the base of the upper lobe. This shadow is rather indefinite, but I think that whatever caused it appeared between the two examinations.

Dr. McGinn: I have just been handed the electrocardiograms. The first one was described in the abstract as normal, but on looking at the tracing it is quite abnormal in that it has deeply inverted T waves in Leads 2 and 3, which makes quite a bit of difference in the summary of the case. It might have made a difference in its handling.

There are three types of presenting symptoms — shortness of breath, epigastric discomfort associated with nausea and vomiting and pain in the right chest radiating to the neck, which I interpret as having been due to diaphragmatic irritation with distribution of the pain through the phrenic nerve. The major findings in the case, however, are those of acute right ventricular strain. One week prior to the final admission, we know that she had severe shortness of breath, a feeling of fullness in the mid-epigastrium and tenderness on palpation over the liver area. I believe that that was due to acute hepatic congestion. Sometimes acute congestion of the liver can be extremely painful and simulate an acute abdomen. There is also a note that the pulmonic second sound was louder than the aortic, the reverse of what one would expect, particularly with a blood systolic pressure of 170. Then there was radiation of pain to the neck, which I referred to previously as probably having been due to diaphragmatic pleurisy.

On the final admission the patient had cyanosis, rapid breathing, distended neck veins and a fall of blood pressure. These findings are consistent with strain on the right ventricle. A gallop rhythm was heard at the base of the heart. If gallop rhythm is due to left ventricular dilatation it is usually heard at the apex. When heard at the base of the heart, it is likelier to be due to right ventricular dilatation, particularly if it is in the region of the pulmonary conus. That is not an unusual finding in cases of pulmonary embolism. Then there was a change in the electrocardiogram, in that some evi-

dence of right-axis deviation appeared, which is further evidence of right ventricular strain. Later on, she had some calf tenderness and preparations were made for ligation.

Diaphragmatic hernia may cause undue strain on the chambers of the right heart. It is unusual. If she had had a small diaphragmatic hernia it is possible that suddenly a large part of the stomach went through the diaphragm into the chest and caused an acute compression of the lung. In this case a negative gastrointestinal series was reported, and I think that this diagnosis can be ruled out on that basis, as well as the facts that she had had no previous history of diaphragmatic hernia and that it is an extremely rare condition. I* reported one, and one other case has been reported in the literature. The symptoms in both cases were identical with those of massive pulmonary embolism.

That leaves us with acute cor pulmonale, the sudden distention and dilatation of the chambers of the right heart secondary to obstruction in the pulmonary circulation. The most frequent cause is acute pulmonary embolism. I believe that this patient did have a pulmonary embolus. I have confidence in the electrocardiogram and will have to make a diagnosis of coronary thrombosis on this tracing, even though the history is far from typical. There is nothing in the type of pain to make one think of coronary thrombosis, but we cannot get away from the first electrocardiogram, which shows no evidence of pulmonary embolism, but rather a coronary type of electrocardiogram consistent with posterior myocardial infarction due to occlusion of the right coronary artery. If that assumption is correct, she did have a previous coronary thrombosis. The incidence of pulmonary embolism and infarction in cardiac patients is so high that I believe they were also present in this case, coincident with coronary thrombosis.

Dr. Donald King: Do the x-ray films show evidence of old pulmonary infarction?

Dr. Lingley: There are scars in the right lung that are consistent with old infarcts. The shadow that appeared between the two examinations is consistent with a fresh infarct.

Dr. King: You would expect to find evidence of old infarction?

Dr. Lingley: The x-ray findings are consistent with it.

*McGinn, S., and Spear, L. M. Diaphragmatic hernia presenting clinical picture of acute cor pulmonale. *New Eng. J. Med.* 224:1014-1018, 1941.

Dr. Fred Alexander: Does Dr. Sprague think that the inverted T waves in Leads 2 and 3 can be interpreted as evidence of cardiac disease of long standing?

Dr. Sprague: I think that they could, but this does not look like a case of that type. The patient had a systolic pressure of 170, with a low diastolic pressure.

Clinical Diagnoses

Pulmonary infarction.
Thrombophlebitis, right leg.
Myocardial infarction.

Dr. McGinn's Diagnoses

Acute cor pulmonale.
Pulmonary emboli and infarcts.
Coronary occlusion (old).
Thrombophlebitis, right leg.

Anatomical Diagnoses

Pulmonary embolism, massive, bilateral.
Pulmonary infarcts, multiple, healed.
Focal infarction of left auricle.
Mural thrombus, left auricle.
Thrombophlebitis, superficial: femoral and popliteal veins of left leg.

Pathological Discussion

Dr. Tracy B. Mallory: The autopsy showed as the immediate cause of death a massive pulmonary embolus that filled the major branches of both the right and the left pulmonary arteries. We also found in the lungs a number of old scars, which were quite characteristic of healed infarcts. There was not, however, any marked degree of cor pulmonale, and no gross evidence of myocardial infarction was noted at autopsy. A small partially adherent thrombus was present in the left auricle. Sections were made through that auricle, and there were several microscopic areas of infarction in the auricular muscle. I am throwing Dr. McGinn a lifeline, but I am not sure that that explains the electrocardiogram. The major coronary arteries were in fairly good shape, with just a few widely scattered patches of atheroma. Ante-mortem thrombi were found in the superficial femoral and popliteal veins of the left leg. There can be little doubt that these represented the source of the pulmonary emboli, since the veins of the right leg were normal and the auricular thrombus was on the left side of the heart.

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THE INADEQUACIES OF MEDICAL CARE

IV. Those Concerning Its Adjuncts

Given proper distribution and cost of high-grade medical care, little can be accomplished if the necessary adjuncts are lacking, such as well equipped hospitals, adequate nursing personnel and continued progressive research concerning disease.

As stated in one of the previous editorials, lack of hospitals and poorly equipped hospitals are two of the chief reasons why recently graduated physicians refuse to settle in rural districts and certain small cities. Such a situation usually exists because these communities cannot afford to create or maintain such facilities. No doubt this inadequacy would be lessened by proposed national legislation to build hospitals in areas of demonstrated need (Hill–Burton Bill), but to ensure a high quality of medical care, it may be necessary to employ full-time or to subsidize chiefs-of-service who have been properly trained.

Even in the large cities in which, ten years ago, there was considered to be a superabundance of hospital beds, it is now almost impossible to obtain space even for the patient who becomes seriously ill. This condition has chiefly resulted from two causes. In the first place, physicians and laymen have become aware of the fact that a moderately or critically ill patient can be cared for far better in a modern hospital than in the home; secondly, the widespread and enthusiastic support of Blue Cross plans has greatly increased the number of persons who, when ill, seek hospitalization. Obviously, to meet this demand present hospitals must be enlarged and new hospitals must be built, but some relief would result if better use were made of existing facilities — for example, hospitals could be placed on a seven-day week and rules limiting the period of convalescence could be enforced. The latter might be assisted by the creation of affiliated convalescent departments or homes.

For many years standards for the approval of hospitals, both regarding equipment and personnel, have been set by the Council on Medical Education and Hospitals of the American Medical Association and by the American College of Surgeons. More recently, certain states, including Massachusetts, have designated minimum requirements for approval by the appropriate state department. All this has resulted in a tremendous improvement in hospitals, but a great number are still substandard because they are either poorly equipped or inadequately staffed, or both. Further improvement seems to rest solely in state regulation, but the administrative boards and officers of nonprofit institutions could do a great deal to correct existing faults.

For hospitals in rural districts and small cities, the adoption of a plan similar to that sponsored by Bingham Associates Fund seems distinctly worth while. Under this scheme, consultative clinical and laboratory services, as well as opportunities for continued professional and technical training, are

available to numerous community hospitals in Maine through their affiliation with hospitals in two relatively large cities, Lewiston and Bangor, the latter, in turn, being affiliated with a large teaching unit, the New England Medical Center, in Boston.

Lack of nursing personnel is another contributing factor to inadequacy of medical care. During the war, this scarcity was to be expected, although there seems to be no doubt that the armed forces demanded and obtained more nurses than they knew how to utilize. There appears, however, to be reason for believing that the shortage will continue, inasmuch as many of these nurses, having realized the advantages of relatively well paid and secure jobs, are loath to request discharge. Whether a sufficient number of young women can be induced to enter the nursing profession is doubtful, but an increase in facilities for the training of attendant or practical nurses would do much to relieve the present shortage. For this type of training the preliminary requirements are less demanding and the training period is of shorter duration than is the case with regular training schools; on the other hand, the young women who graduate are usually qualified to give routine care in hospitals, convalescent homes and private homes. Massachusetts and seventeen other states have already established schools for the training of attendant nurses, and have created boards for their licensing, and a nation-wide adoption of such a program would be advantageous.

Medical care cannot improve, all other things being equal, unless it receives the continued benefit of research in the cause and treatment of disease. Although a great deal was accomplished by relatively inco-ordinated research prior to the war, the advances made under the supervision of the Committee on Medical Research of the Office of Scientific Research and Development leave no doubt concerning the advantages of integrated investigation. Furthermore, efforts should be directed toward the diseases that are chiefly responsible for crippling and death, such as arthritis, cardiovascular diseases and cancer. As an example of the inconsistencies in the latter regard, it should be noted that the National Foundation for Infantile Paralysis was able to raise over $16,000,000 in 1945, whereas the American Cancer Society could only obtain about $4,000,000. Finally, it should be borne in mind that, with taxation as high as it is at the moment and little probability that it will be appreciably reduced in the near future, contributions from individuals and groups for the furtherance of medical research will necessarily grow smaller and smaller. For these reasons proposed national legislation for the promotion and support of scientific research (Kilgore and Magnussen bills) seems not only proper but indispensable.

The practicing physician has little or no control over most of the above adjuncts of medical care, but all of them have a lot to do with the health of the people and all schemes aimed at improvement should receive the enthusiastic and energetic support of the medical profession.

H.R. 5296

Mrs. Clare Boothe Luce, Representative in Congress of the 4th Connecticut District, has introduced in the House of Representatives a bill notable in two respects: it recognizes an extra burden that is almost implicit in the practice of the healing arts, and it is, pleasantly, one of the shortest documents of its nature that we have yet had the privilege of reading.

The full text of H.R. 5296 is as follows:

> *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That section 23-q of the Internal Revenue Code is amended by adding the following new paragraph, to read as follows:
>
> "(4) That commencing with the taxable year 1946, physicians, surgeons and dentists shall be allowed an additional credit as a deduction on their income tax equal in terms of percentages to that portion of their time each year which is devoted to charity, free clinic work, and/or public research work;
>
> "(5) The Commissioner of Internal Revenue shall prescribe by regulation the method of computing such time and the proof which shall be required in substantiation thereof."

This bill of the Connecticut congresswoman is, obviously, a mere outline, an earnest of a good intention of which the practical details, if it should receive favorable consideration, would require amplification and interpretation. We have no idea of the reception that the bill will receive at the hands of the Committee on Ways and Means,

to which it has been referred, but it is heartening to have a lawmaker take sympathetic recognition of the fact that medical practice is one of the most arduous and unselfish branches of public service.

A strict interpretation, we imagine, of that which in the doctor's daily life suffereth long and is kind, which envieth not, vaunteth not itself and is not puffed up, may prove to be a problem for the Commissioner of Internal Revenue. May he have faith and may we have hope if such an opportunity comes his way! In the meantime, those who approve of this measure should communicate their interest to some member of the Committee on Ways and Means.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

LIMITED SUPPLY OF IMMUNE SERUM GLOBULIN

The current measles epidemic has created an unprecedented demand for immune serum globulin, which threatens to exhaust the available supply. Physicians are therefore urged to limit their use of this product to cases in which the need is clearly indicated, and to select modification rather than temporary protection, unless protection is definitely required.

Temporary protection against measles can usually be obtained in exposed susceptible persons by administering 0.1 cc. of globulin per pound of body weight (but not over 10 cc.) within the first six days after exposure. It is recommended for infants from six months to two years old and for older children who are debilitated, ill or faced with an emergency, such as travel or surgery. The protection so obtained does not last more than about three weeks.

Modification is desirable in other exposed susceptible persons, and may be obtained by giving 0.025 cc. per pound of body weight (equivalent to 1 cc. for a 40-lb. child) within six or seven days after the date of exposure. Modified measles usually results in permanent immunity.

CONSULTATION CLINICS FOR CRIPPLED CHILDREN IN MASSACHUSETTS UNDER THE PROVISIONS OF THE SOCIAL SECURITY ACT

Clinic	Date	Clinic Consultant
Haverhill	May 1	William T. Green
Lowell	May 3	Albert H. Brewster
Salem	May 6	Paul W. Hugenberger
Brockton	May 9	George W. Van Gorder
Worcester	May 17	John W. O'Meara
Pittsfield	May 20	Frank A. Slowick
Springfield	May 21	Garry deN. Hough, Jr.
Fall River	May 27	David S. Grice
Hyannis	May 28	Paul L. Norton

Physicians referring new patients to clinics should get in touch with the District Health Officer to make appointments.

CORRESPONDENCE

A MISSTATEMENT

To the Editor: There recently appeared in the newspapers of Boston a statement, made by ex-representative Niland, of East Boston, before a legislative hearing at the State House, that the Health Commissioner of Boston was a graduate of the College of Physicians and Surgeons, of Shawmut Avenue, Boston.

This is absolutely untrue, since I graduated from Harvard Medical School in 1903, with postgraduate work at the Rotunda Hospital, Dublin, Ireland, in 1903-1904.

Except for several years during World War I and World War II, during which time I served with the United States Navy, I have been associated with the Boston Health Department since September, 1904, in various positions.

I have also attended the public-health schools of both Harvard and Johns Hopkins.

Frederick J. Bailey, M.D.
Health Commissioner

Health Department
Haymarket Square
Boston 14

BOOK REVIEWS

Endocrinology of Woman. By E. C. Hamblen, M.D. 4°, cloth, 571 pp., with 157 illustrations. Springfield, Illinois: Charles C Thomas, 1945. $8.00.

This book is divided into five parts.

Part one deals with the endocrine glands — their history, embryology, anomalies, anatomy, histology, secretory control, chemistry, physiology and interrelations. Following the introductory chapter, separate chapters are devoted to the thyroid gland, the adrenal glands, the pancreas, the parathyroid glands, the ovaries, the testes, the pituitary gland, the pineal gland and the thymus. The author justifies the inclusion of the testes in this presentation on the basis "that detailed knowledge of this gland is necessary for any real orientation of the problems of intersexuality, androgen therapy of woman, virilizational syndromes and sterility."

Part two is concerned with applied endocrine physiology and discusses in detail antenatal growth and sexual differentiation, childhood development, sexual maturation, sexual maturity (menstruation, conception and gestation) and sexual regression.

Fifty-seven pages, comprising the third part, are devoted to endocrine diagnostic methods. This portion of the book is well illustrated and covers all the known clinical methods of endocrine diagnosis. The laboratory procedures useful in the diagnosis of normal and abnormal levels of endocrine function are alluded to; the normal values are emphasized throughout, so that abnormal values may be more easily recognized.

In part four the various functional disorders of the endocrine glands are discussed, and the effect of these glandular diseases on the sexual and reproductive functions of woman is stressed.

Part five contains eighteen chapters on endocrinology applied to gynecologic disease, and deals with such subjects as abnormal skeletal growth, abnormal sexual differentiation, obesity and leanness, abnormal uterine bleeding, functional uterine bleeding during adolescence, functional uterine bleeding during the childbearing age, dysmenorrhea, dermatologic abnormalities, cyclomastopathy, menstrual headaches and other cyclic syndromes, complications of pregnancy, complications of the puerperium, the incidence and causes of sterility, diagnostic methods in cases of sterility, the treatment of sterility, tumorigenesis, complications of the climacteric and commercial endocrine preparations. Only those commercial endocrine preparations with which the author is familiar are listed, but it is stated that omission of preparations from this list does not imply their inferiority.

The complex material of endocrinology of woman, well presented in this book, makes interesting reading. The illustrations are original, numerous, well chosen and clearly executed. Considerable material is condensed in tables throughout the text, and the extensive bibliography at the conclusion of each chapter represents a compendium of the literature on the subject.

The 1944 Year Book of Industrial and Orthopedic Surgery. Edited by Charles F. Painter, M.D. 12°, cloth, 432 pp., with 282 illustrations. Chicago: The Year Book Publishers, 1945. $3.00.

The editor has again compiled a most readable year book. He summarizes in a sufficiently descriptive but yet concise

manner the pertinent, reported happenings in the field of orthopedic surgery and industrial medicine. He has skillfully avoided the Scylla and Charybdis of most year books — a book that reads like a catalog or a volume that is so prolix that the reader yawns before the paragraph is completed. There is a definite place for a skillfully written synopsis and logically arranged index of the year's significant contributions in this field. Every reader will doubtless be disappointed at the absence of certain current papers that he, the reader, considered of value. The author's selection of papers, however, has been good. This volume should be of great aid to the busy surgeon in keeping abreast of current happenings in orthopedic surgery.

Shoulder Lesions. By H. F. Moseley, M.A., D.M., M.Ch. (Oxon.), F.R.C.S. (Eng. and Can.) 4°, cloth, 181 pp., with 70 illustrations. Springfield, Illinois: Charles C Thomas, 1945. $4.50.

The author has summarized in a concise and attractive manner present-day knowledge of disabilities of the shoulder. In doing this he has drawn on his wide experience in treating these lesions both in London and in Montreal. He shows how pitifully inadequate is modern knowledge of shoulder function and its disturbances. There are numerous well chosen illustrations. Chapters on x-ray interpretation and x-ray treatment and on operative procedures are included. Treatment is discussed in sufficient detail. A useful chapter giving thirty-one illustrative case histories completes the book.

Although no orthopedic surgeon will agree in toto with the author's conclusions, the sensible approach and the careful analysis of these lesions will meet with general approval. It can be recommended heartily as a readable and helpful book for all those interested in such disabilities.

NOTICES

ANNOUNCEMENTS

Dr. Edward A. Edwards announces his return to Boston at 374 Marlboro Street, his practice being limited to surgery, with special interest in peripheral vascular disease.

Dr. L. Robert Weiss, having returned from active service with the United States Army, has resumed the practice of allergy at 483 Beacon Street, Boston.

Dr. Ralph H. Wells announces his return from military service and the reopening of his office for the general practice of medicine at 1430 Massachusetts Avenue, Lexington.

JOSEPH H. PRATT DIAGNOSTIC HOSPITAL

Bennet Street, Boston

Lecture Hall, 9-10 a.m.

MEDICAL CONFERENCE PROGRAM

Friday, May 3 — Clinical Diagnosis of Patent Ductus Arteriosus. Dr. Samuel A. Levine.

Wednesday, May 8 — Fluorine and Dental Caries. Dr. Basil G. Bibby.

Friday, May 10 — Psychotherapeutic Opportunities for the General Practitioner. Dr. Erich Lindemann.

Wednesday, May 15 — Silent Chest Lesions. Dr. Richard H. Overholt.

Friday, May 17 — Clinicopathological Conference. Drs. Stanley Bradley and H. E. MacMahon.

Wednesday, May 22 — Hyperadrenocorticism. Dr. Robert H. Williams.

Friday, May 24 — Application of Radioactive Iodine in the Treatment of Graves Disease. Dr. Saul Hertz.

Wednesday, May 29 — War Experiences in Abdominal Surgery. Dr. Charles S. Welch.

Friday, May 31 — The Role of Infection in Shock. Dr. Joseph C. Aub.

On Tuesday and Thursday mornings, Dr. S. J. Thannhauser will give medical clinics on hospital cases. On Saturday mornings, clinics will be given by Dr. William Dameshek. Medical rounds are conducted by some of the staff members from 12:00 to 1:00 in the Lecture Hall.

All exercises are open to the medical profession.

BOSTON UNIVERSITY SCHOOL OF MEDICINE ALUMNI ASSOCIATION

The annual alumni reunion and continuation course of t Boston University School of Medicine will be held on Frid and Saturday, May 10 and 11.

The continuation course will be held in the auditorium the medical school this year, because its popularity has ma more spacious accommodations necessary. There will be nominal registration fee of $1.00 for each of the three session

On Saturday, May 11, at 6:00 p.m., in the Georgian Roo and Parlor A, Hotel Statler, there will be a reception for ne faculty members. At 7:00 p.m. there will be the annual mee ing and banquet. The speakers will include President Dan L. Marsh, Dean Donald G. Anderson, Dr. Reginald H. Smit wick and the speaker of the evening, Dr. James R. Miller, Hartford, Connecticut. Dr. Miller is going to speak on t topic "The National Health Program of the Americ Medical Association." Dr. Miller is a member of the Boa of Trustees of the American Medical Association, and pres dent of the New England Surgical Society. The dinn tickets will be $7.00 each. Dress is optional.

NEW ENGLAND PEDIATRIC SOCIETY

The Spring meeting of the New England Pediatric Socie will be held on Wednesday, May 15.

A day of clinical activities will be presented by Dr. Alla M. Butler and members of his staff at the Massachuset General Hospital. Dr. Edwards A. Park, professor of ped atrics, Johns Hopkins Hospital, Baltimore, Maryland, w be the speaker following the dinner.

NEW ENGLAND OBSTETRICAL AND GYNECOLOGICAL SOCIETY

The spring meeting of the New England Obstetrical a Gynecological Society will be held in Worcester on Wedne day, May 29, with headquarters at the Wachusett Countr Club.

AMERICAN CONGRESS OF PHYSICAL MEDICINE

The twenty-fourth annual scientific and clinical session the American Congress of Physical Medicine will be he September 4 to 7, inclusive, at the Hotel Pennsylvania, Ne York. Scientific and clinical sessions will be given each da All sessions will be open to members of the medical profess in good standing with the American Medical Associatio In addition to the scientific sessions, the annual instructi courses will be held September 4, 5 and 6. These courses w be open to physicians and to therapists registered with th American Registry of Physical Therapy Technicians.

For information concerning the convention and the in struction course, address the American Congress of Physic Medicine, 30 North Michigan Avenue, Chicago 2.

SOCIETY MEETINGS AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNI

THURSDAY, MAY 9

FRIDAY, MAY 10

*10:00 a.m.–12:00 m. Medical Staff Rounds. Peter Bent Brigha Hospital.

12:00 m.–1:00 p.m. Clinicopathological Conference (Boston Floa ing Hospital). Joseph H Pratt Diagnostic Hospital.

MONDAY, MAY 13

*12:00 m.–1:00 p.m. Clinicopathological Conference. Peter Be Brigham Hospital.

TUESDAY, MAY 14

12:00 m.–1:00 p.m. Dermatological Service, Grand Rounds. Amph theater, Dowling Building, Boston City Hospital.

*12:15–1:15 p.m. Clinicoroentgenological Conference. Peter Be Brigham Hospital.

WEDNESDAY, MAY 15

*10:30–11:30 a.m. Medical Clinic. Isolation Building Amphitheate Children's Hospital.

(*Notices continued on page xix*)